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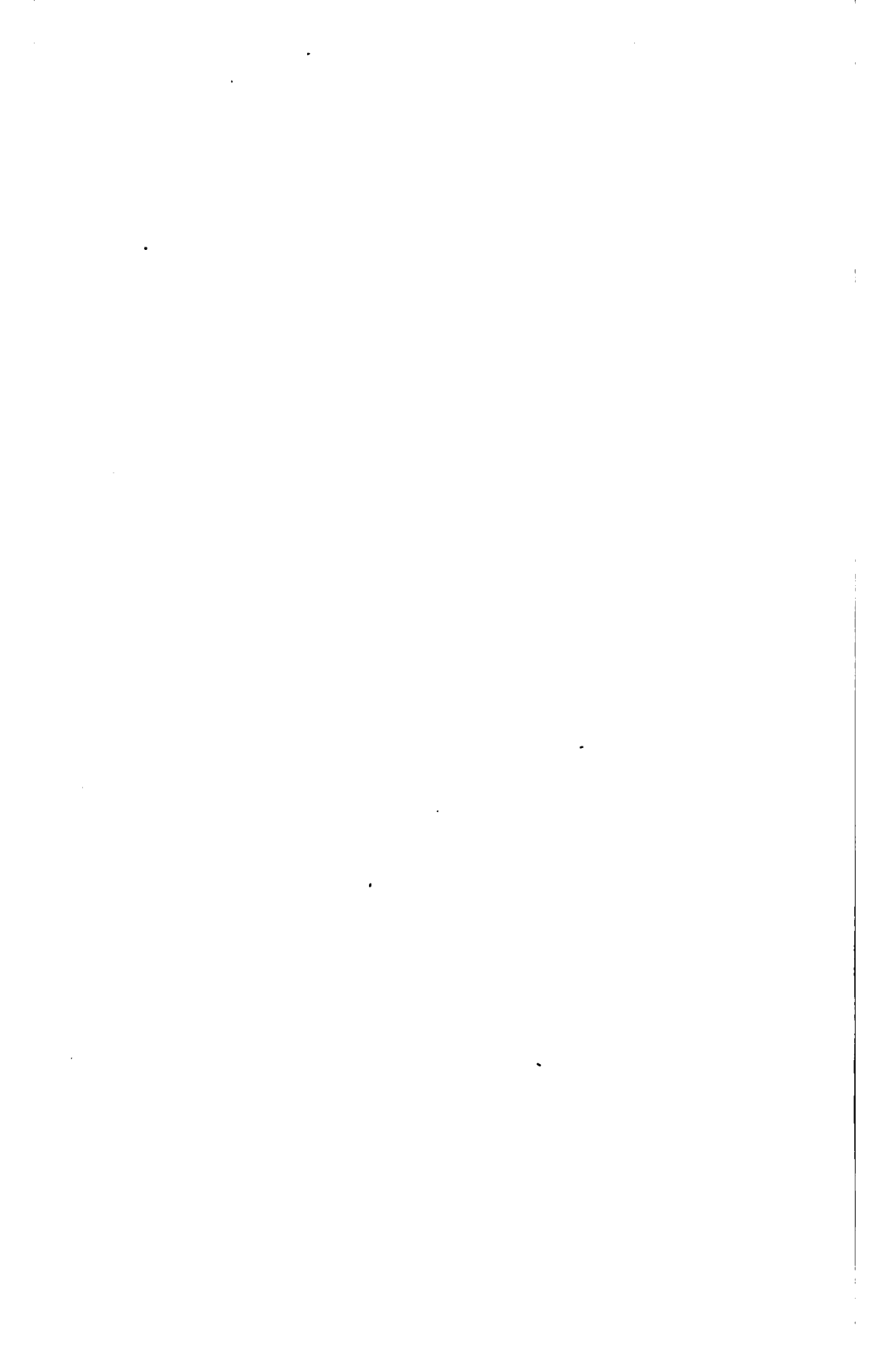
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BRODIX'S AMERICAN AND ENGLISH PATENT CASES.

VOL. V.

DECISIONS

ON THE LAW OF

PATENTS FOR INVENTIONS

RENDERED BY

THE UNITED STATES SUPREME COURT,

FROM THE BEGINNING.

5 HOWARD, — 15 HOWARD,
1848. 1853.

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OF THE TITLES OF REPORTS AND WORKS OF LAW USED IN
THIS VOLUME.

Abb. (C. C.) U. S.....	Abbott's Circuit and District Courts.
Abb. N. C.....	Abbott's New Cases (N. Y.).
Abb. Pat. Law.....	Abbott's Patent Laws of all Nations.
Allen	Allen, Massachusetts Reports.
Am. & Eng.....	American & English Patent Cases.
Arch. Civ. Pl.....	Archibald's Criminal Pleading, England.
Att'y-General.....	Attorney-General's Decisions, United States.
B. & A.....	Banning & Arden, Patent Cases, U. S.
Bald.....	Baldwin, U. S. Circuit Court.
B. & Ald.....	Barnewall & Alderson, England, K. B.
Ban. & Ard.....	Banning & Arden, Patent Cases, U. S.
Barb. N. Y.....	Barbour, New York Supreme Court.
Barn. & Adol.....	Barnewall & Adolphus, England, K. B.
Barn. & Ald.....	Barnewall & Alderson, England, K. B.
Barn. & Cres.....	Barnewall & Cresswell, England, K. B.
Bing.....	Bingham, England, C. P.
Biss.....	Bissell, U. S. Circuit Court.
Black.....	Black, U. S. Supreme Court.
Blatch	Blatchford, U. S. Circuit Court.
Boa. & Pull. N. R.....	Bosanquet & Puller, New Reports, England, C. P.
Brock.....	Brockenborough, U. S. Circuit Court.
Brod. & Bingham.....	Broderip & Bingham, England, C. P.
Brodix.....	Brodir's Am. & Eng. Pat. Cases.
Brunn. Coll. Cases.....	Brunner's Collected Cases, U. S. Circuit Court.
Buller's N. P.....	Buller's N. P., England.
Burr.....	Burrow, England, K. B.
Camp.....	Campbell, England, N. P.
Carpmael.....	Carpmael on Patents, England.
Car. & P.....	Carrington & Payne, N. P., England.
Car. & Payne.....	Carrington & Payne, N. P., England.
C. D.....	Commissioner of Patents, Decisions, U. S.
Cliff.....	Clifford, U. S. Circuit Court.
Coke Litt.....	Coke on Littleton, England.
Com. L. R.....	Common Law Report, England.
Compt., Mees. & Ros.....	Compton, Meeson & Roscoe, England.
Comyn on Contracts.....	Comyn on Contracts, England.

Comyn's Digest.....	Comyn's Digest, England.
Cond. Rep.....	Peter's Condensed Reports, U. S. Supreme Court.
Cow.....	Cowen, New York Reports.
C. & P.....	Carrington & Payne, N. P., England.
Cr.....	Croke, England.
Craig & Phil.....	Craig & Phillips, England, Chancery.
Cranch.....	Cranch, U. S. Supreme Court.
Cro. Eliz.....	Croke, Elizabeth, England, Q. B.
Ct. of Clms.....	Court of Claims, U. S.
Curt. on Pats.....	Curtis on Patents, U. S.
Dall.....	Dallas, U. S. Supreme Court.
Daniell Ch. Pr.....	Daniell's Chancery Practice, England.
Davies's P. C.....	Davies's Patent Cases, England.
Day.....	Day, Connecticut Reports.
D. & E.....	Durnford & East, (Term Reports,) England.
Drewry on Injt.....	Drewry on Injunctions, England.
Dwarris on Statutes.....	Dwarris on Statutes, England.
East.....	East, England, K. B.
E. C. L. R.....	England Common Law Report.
Eden on Injunctions.....	Eden on Injunctions, England.
Elizabeth.....	Croke, Elizabeth, England.
Eng. Com. Law Rep.....	England Common Law Report.
Eng. Com. L. R.....	England Common Law Report.
Eng. Law & Eq. Rep.....	England Law & Equity Report.
Fed. Rep.....	Federal Reporter, U. S.
Fish.....	Fisher's Patent Cases, U. S.
Fish. Pat. Rep.....	Fisher's Patent Reports, U. S.
Flip.....	Flippin, U. S. Circuit Court.
Frank. Jr.....	Franklin Journal, U. S.
Gall.....	Gallison, U. S. Circuit Court.
Gallis.....	Gallison, U. S. Circuit Court.
Gill.....	Gill, Maryland Court of Appeals.
Godson on Pats.....	Godson on Patents, England.
Hall (N. Y.).....	Hall, N. Y. Superior Court.
Hen. Bl.....	Henry Blackstone, England, C. P.
Hill (S. C.).....	Hill's Law, South Carolina.
Hindmarch on Pats.....	Hindmarch on Patents, England.
Holmes.....	Holmes, U. S. Circuit Court.
How.....	Howard, U. S. Supreme Court.
Hun (N. Y.).....	Hun, New York Supreme Court.
Ill. Rep.....	Illinois Reports.
Jacob's Law Dict.....	Jacob's Law Dictionary, England.
Jacob's R.....	Jacob, Chancery, England.
Johns.....	Johnson, New York.
Johns. Ca.....	Johnson's Cases, New York.
Kent's Com.....	Kent's Commentaries, U. S.
Kingsby & Pirsson on Patents.....	Kingsby & Pirsson on Patents, England.
Ld. Raymond.....	Lord Raymond, England, K. B.

TABLE OF ABBREVIATIONS.

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L. Ed.....	Lawyer's Edition of U. S. Supreme Court Reports.
Leg. Gaz. Rep.....	Legal Gazette Report.
Lev.....	Levinz, England, K. B.
London Jour. & Rep. Arts....	London Journal & Repertory of Arts, England Periodical.
Lund on Patents.....	Lund on Patents, England.
MacA.....	MacArthur, Supreme Ct. of D. C.
MacA. P. C.....	MacArthur's Patent Cases, U. S.
MacA. & McK.....	MacArthur & McKey, Supreme Ct. of D. C.
McAl.....	McAllister, U. S. Circuit Court.
McL.....	McLean, U. S. Circuit Court.
Mann. & Grang.....	Manning & Granger, England.
Marsh. Com. P. Rep.....	Marshall, Common Pleas Report, England.
Mason	Mason, U. S. Circuit Court.
Mass	Massachusetts State Reports.
Meriv	McCrivale, England, Ch.
Mees. & Welsb.....	Meeson & Welsby, Ex., England.
Merwin	Merwin on Patentability of Inventions.
M. & Gr.....	Manning & Granger, England.
Mod.....	Modern, England, K. B.
Moore (J. B.).....	J. B. Moore, England, C. P.
Ms. D. C.....	Manuscript Cases, District of Columbia.
Mylne & Cr	Mylne & Craig, England, Ch.
M. & W.....	Meeson & Welsby, Ex., England.
Neb. Rep.....	Nebraska Report.
Nev. & P.....	Neville & Perry, England, K. B.
N. H. Rep.....	New Hampshire Report.
N. Y.....	New York Court of Appeals.
N. Y. Leg. Obs.....	New York Legal Observer.
O. G.....	Official Gazette of U. S. Patent Office.
Ohio R.....	Ohio State Reports.
Ont. App. R.....	Ontario Ct. of Appeals, Canada.
Ont. Rep.....	Ontario Reports, Canada.
Paine.....	Paine, U. S. Circuit Court.
Feake's Cases.....	Peake's Cases, N. P., England.
Pet.....	Peters, U. S. Supreme Court.
Peters C. C.....	Peters, U. S. Circuit Court.
Phila. R.....	Philadelphia Reports.
Phil. on Pats.....	Phillips on Patents.
Pick.....	Pickering, Massachusetts, vols. 18-41.
Pitts. R.....	Pittsburg Report.
Renouard.. ..	Renouard, Traité des Brevets d'Invention, France.
Rep.....	The Reporter, U. S.
Repertory of Patent Inventions.	Repertory of Patent Inventions, England.
Reporter	The Reporter, U. S.
Robb.....	Robb's Patent Cases, U. S.
Russell Ch.....	Russell, England, Ch.

TABLE OF ABBREVIATIONS.

Russ. & Mylne.....	Russell & Mylne, England, Ch.
Shower.....	Shower, England, K. B.
Smith's Chan. Prac.....	Smith's Chancery Practice, England.
S. & R.....	Sergeant & Rawle, Penn. Reports.
Stark.....	Starkie, England, N. P.
Starkie.....	Starkie, England, N. P.
Story.....	Story, U. S. Circuit Court.
Story's Eq.....	Story's Equity, U. S.
Sumn.....	Sumner, U. S. Circuit Court.
Taney.....	Taney, U. S. Circuit Court.
Taunt.....	Taunton, England, C. P.
Term Rep.....	Term Reports [Durnford & East], England.
Texas R.....	Texas Reports.
The Rep.....	The Reporter, U. S.
T. R.....	Term Reports [Durnford & East], England.
U. S.	United States Supreme Court Reports.
U. S. Dig.....	U. S. Digest.
U. S. L. J.....	United States Law Journal.
Vernon.....	Vernon, England, Ch.
Ves.....	Vesey, England, Ch.
Ves. & Beames.....	Vesey & Beames, England, Ch.
Walker on Pats.....	Walker on Patents.
Wall.....	Wallace, U. S. Supreme Court.
Wall. Jr.....	Wallace, Jr., U. S. Circuit Court.
Wash. C. C.....	Washington, U. S. Circuit Court.
Watts.....	Watts, Pennsylvania.
Webs. P. C.....	Webster's Patent Cases, England.
Webs. on Pats.....	Webster on Patents, England.
Webs. on Sub. Mat.....	Webster on Subject-Matter, England.
Wend.....	Wendell, New York State Court.
Wheat.....	Wheaton, U. S. Supreme Court.
Whit.....	Whitman, U. S. Supreme Court Patent Cases.
Willes's Rep.....	Willes's Report, C. P., England.
Wils.....	Wilson, England, K. B.
W. & M.....	Woodbury & Minot, U. S. Circuit Court.
Wood. & Minot.....	Woodbury & Minot, U. S. Circuit Court.
W. Va. Rep.....	West Virginia Reports.
Yel.....	Yelverton, England, K. B.

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Mr. Justice Daniel.	Gayler v. Wilder, Dis. opin., p. 229.
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—————	Gayler v. Wilder, Dis. opin., p. 216.
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—————	Wilson v. Sandford, p. 123.
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—————	Gayler v. Wilder, p. 287.
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—————	O'Reilly v. Morse, p. 619.
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DECISIONS
OF
THE SUPREME COURT
OF
THE UNITED STATES
IN
PATENT CASES.

PETER HOGG AND CORNELIUS H. DELAMATER,
PLAINTIFFS IN ERROR, v. JOHN B. EMERSON.

6 How. 437-486. Jan., 1848.

[Bk. 12, L. ed. 505 ; 2 Robb. 655 ; 1 Whit. 498.]

Same case, 11 How. 587.

Appeal. Specification part of letters patent. Particular patent construed. Joinder of inventions in one patent. Description of old parts. Rules of construction. Destroyed record.

1. Act 1836, § 17, construed to vest the Circuit Court with discretion to allow or disallow writs of error in patent cases involving less than \$2000 (p. 57).
2. When a court below deem it "reasonable" to allow a writ of error at all under the discretion vested in them by Act 1836, § 17, it must be on the whole case (p. 57).
3. The English law as relating to the letters patent and the specification examined (p. 59).
4. The patent is to be tested by the law in force at the time of its grant (p. 60).
5. In view of Act 1793, § 3, the specification being required to be

Syllabus.

- prepared and filed before the patent issues, it can be referred to in *extenso* for the subject-matter of the claim or petition for patent (p. 60).
6. The schedule or specification held to be a part of the letters patent in view of early and long-continued practice under Act 1793, § 3 (p. 63).
 7. J. B. Emerson's patent for Steam Engine granted March 8, 1834, held broad enough in view of the specification annexed, to embrace the patent alleged in the writ (p. 64).
 8. Patents should include but one subject ; but they may be united, if two or more, included in one set of letters patent, relate to a like subject, or are in their nature and operation connected together (p. 65).
 9. Several inventions held properly joined in Emerson's patent, and the sufficiency of the description in the specification sustained (p. 66).
 10. In his specification patentee need not describe particularly, and disclaim all the old parts of his invention (p. 67).
 11. Models and drawings in the case may be resorted to for clearer information (p. 68.)
 12. Where patentee had previously perfected his right, the destruction of the record, through no fault of his, cannot injure him (p. 68).
 13. Patents and specifications, and the doings generally of inventors, should be construed by plain and ordinary principles (p. 68).

[Citations in the opinion of the Court :]

- (1) Webster on Patents, 5, 86, 88, pp. 59, 60.
- (2) Godson on Patents, 108, 153, 154, 176, 189, pp. 59, 60, 66.
- (3) Boulton v. Bull, 1 Am. & Eng. 59 ; 2 H. Bl. 478, pp. 60, 66.
- (4) Crossley v. Beverly, 1 Am. & Eng. 437 ; 1 Webs. Pat. R. 117, p. 60.
- (5) Hornblower v. Boulton, 1 Am. & Eng. 98 ; 8 D. & E. 95, p. 60.
- (6) Campion v. Benyon [1 Am. & Eng. 345] ; 3 Brod. & Bingh. 5, p. 60.
- (7) Evans v. Chambers, 2 Wash. C. C. 125, p. 62.
- (8) Grant v. Raymond, 6 Peters, 222, p. 62.
- (9) Gray v. James, Peters' C. C. 394, p. 62.
- (10) Wilson v. Rousseau, 4 How. 649, pp. 62, 69.
- (11) Phillips on Patents, 228, 523, pp. 63, 64.
- (12) Foxcroft v. Mallett, 4 How. 378, p. 64.
- (13) 21 Maine, 60, p. 64.
- (14) 20 Pick. 122, p. 64.
- (15) Earle v. Sawyer, 4 Mason C. C. 9, p. 64.

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- (16) *Ex parte* Fox, 1 Ves. & Beames, 67 ; 1 Am. & Eng. 185, p. 64.
- (17) *Davis v. Palmer*, 2 Brock. 301, p. 64.
- (18) *Whittemore v. Cutter*, 1 Gall. 437, p. 64.
- (19) *Pitts v. Whitman*, 2 Story, 621, p. 64.
- (20) *Barrett v. Hall*, 1 Mason, 477, pp. 64, 66.
- (21) *Paine C. C.* 441, p. 65.
- (22) *Pennock v. Dialogue*, 2 Pet. 1, p. 65.
- (23) *Phillips on Patents*, 217, 218, 270, pp. 65, 67.
- (24) *Renouard*, 293, p. 65.
- (25) *Moody v. Fiske*, 2 Mason, 112, p. 66.
- (26) *Wyeth v. Stone*, 1 Story, 273, pp. 66, 67.
- (27) *Reutgen v. Kanowrs*, 1 Wash. 168, p. 66.
- (28) *Davis v. Palmer*, 2 Brock. 303, p. 66.
- (29) *Wood v. Underhill*, 5 How. 1, p. 66.
- (30) *Godson on Pats.* 6, App., p. 59.
- (31) *Davoll v. Brown*, 1 Wood & Min. 57, p. 66.
- (32) *Peters C. C.* 301, p. 66.
- (33) *Sullivan v. Redfield*, *Paine C. C.* 441, p. 66.
- (34) *Evans v. Eaton*, 3 Wheat. 454, p. 66.
- (35) *Campion v. Benyon*, 1 Am. & Eng. 345 ; 3 Brod. & Bingh. 5, p. 66.
- (36) *Lyburn v. Chesney*, 1 Starkie N. P. 162, p. 66.
- (37) *Bacon v. Chesney*, 1 Starkie N. P. 192, p. 66.
- (38) *Harmar v. Playne*, 1 Am. & Eng. 171 ; 11 East, 105, p. 66.
- (39) *Jones v. Jones*, 3 Merivale, 161, p. 66.
- (40) *Evans v. Eaton*, 3 Wash. C. C. 453, p. 66.
- (41) 4 Wash. C. C. 9, p. 66.
- (42) *Bovill v. Moore*, *Davies' Cases*, 361 ; 1 Am. & Eng. 281, p. 67.
- (43) *Lowell v. Lewis*, 1 Mason, 182-189, p. 67.
- (44) *Hill v. Thompson*, 2 J. Marsh. 435 ; 1 Am. & Eng. 285, p. 67.
- (45) *Dixon v. Moyer*, 4 Wash. 68, p. 67.
- (46) *Kay v. Marshall*, 1 Mylne & Cr. 373 ; 2 Am. & Eng. 186, 242, 250, 325, 416, p. 67.
- (47) *Wyeth v. Stone*, 1 Story, 273, pp. 67, 69.
- (48) *Moody v. Fiske*, 2 Mason, 112, p. 67.
- (49) *Snowball v. Goodricke*, 4 Barn. & Ald. 541, p. 67.
- (50) *Bovill v. Moore*, 2 Marsh Com. P. Rep. 211 ; 1 Am. & Eng. 268, p. 67.
- (51) *McFarlane v. Price*, 1 Starkie, 199 ; 1 Am. & Eng. 227, p. 67.
- (52) *King v. Cutler*, 1 Starkie, 354 ; 1 Am. & Eng. 225, p. 67.
- (53) *Felton v. Greaves*, 1 Am. & Eng. 416 ; 3 Car. & Payne, 611, p. 67.
- (54) *Kingsby & Pirsson on Pats.* 35, 61, pp. 67, 69.
- (55) *Isaacs v. Cooper*, 4 Wash. 259, p. 67.
- (56) *Evans v. Eaton*, 7 Wheat. 435, p. 67.
- (57) *Earle v. Sawyer*, 4 Mason, 9, p. 68.
- (58) *Robertson v. French*, 4 East, 185, p. 68.
- (59) *Crosley v. Beverley*, 3 Car. & Payne, 513 ; 1 Am. & Eng. 409, p. 68.
- (60) *Godson on Pats.*, 24, App. 7, p. 69.
- (61) *Ames v. Howard*, 1 Sumn. 492, p. 69.

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(62) *Blanchard v. Sprague*, 2 Story, 164, p. 69.

(63) *Davis v. Palmer*, 2 Brock. 303, p. 69.

(64) *King v. Wheeler*, 2 Barn. & Ald. 345 ; 1 Am. & Eng. 317, p. 69.

(65) *Russell v. Cowley*, 1 Compt., Mees & Ros. 864, 876 ; 1 Am. & Eng. 489, p. 69.

THIS case was brought up by writ of error from the Circuit Court of the United States for the Southern District of New York. It was a suit for the violation of a patent-right, and the writ of error was allowed under the seventeenth section of the act of 1836.

On March 8th, 1834, John B. Emerson, the defendant in error, obtained the following letters patent, (which were recorded anew on the 5th of March, 1841,) namely :

“The United States of America to all to whom these letters patent shall come :

“Whereas, John B. Emerson, a citizen of the United States, hath alleged that he has invented a new and useful improvement in the steam-engine, which improvement he states has not been known or used before his application ; hath made oath that he doth verily believe that he is the true inventor or discoverer of the said improvement ; hath paid into the treasury of the United States the sum of thirty dollars, delivered a receipt for the same, and presented a petition to the Secretary of State, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose : These are, therefore, to grant, according to law, to the said John B. Emerson, his heirs, administrators, or assigns, for the term of fourteen years from the eighth day of March, one thousand eight hundred and thirty-four, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used the said improvement, a description whereof is given, in the words of the said John B. Emerson himself, in the schedule hereto annexed, and is made a part of these presents.

“In testimony whereof, I have caused these letters to be made patent, and the seal of the United States to be hereunto affixed.

J. B. Emerson.
Screw Propeller.

Nº

Patented Mar. 8, 1834.

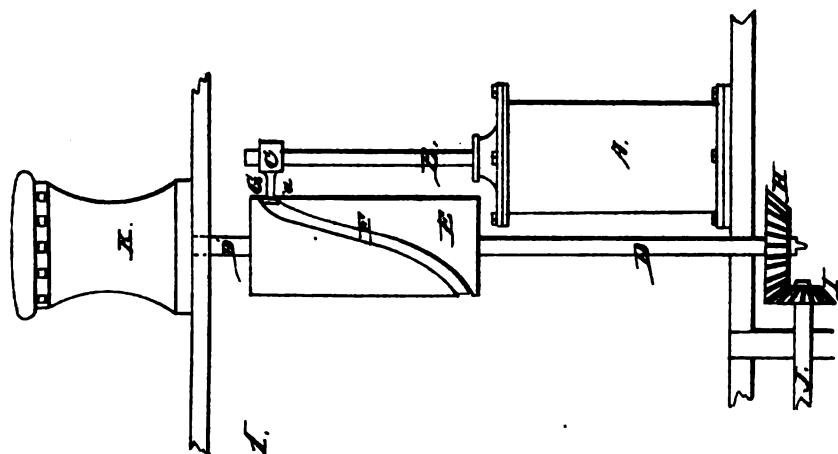


Fig. 1.

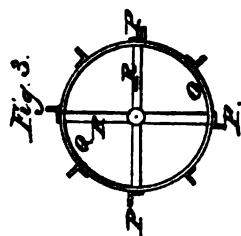
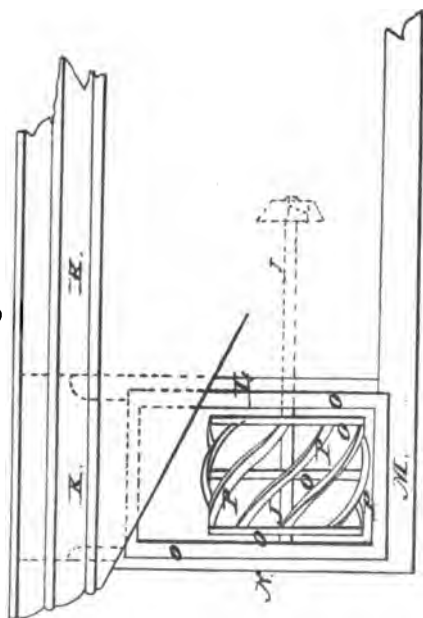


Fig. 3.

Fig. 2.



Statement of the case.

" Given under my hand, at the city of Washington, this eighth day of March, in the year of our Lord one thousand eight hundred and thirty-four, and of the independence of the United States of America the fifty-eighth.

[SEAL.]

" ANDREW JACKSON.

" By the President.

" LOUIS McLANE, *Secretary of State.*"

City of Washington, to wit :

I do hereby certify that the following letters patent were delivered to me on the eighth day of March, in the year of our Lord one thousand eight hundred and thirty-four, to be examined ; that I have examined the same, and find them conformable to law ; and I do hereby return the same to the Secretary of State, within fifteen days from the date aforesaid, to wit, on this eighth day of March, in the year aforesaid.

B. F. BUTLER,

Attorney-General of the United States.

The schedule referred to in these letters patent, and making part of the same, containing a description, in the words of the said John Brown Emerson himself, of his improvement in the steam-engine :

" To all whom it may concern : Be it known, that I, John Brown Emerson, of the city of New York, have invented certain improvements in the steam-engine, and in the mode of propelling therewith either vessels on the water or carriages on the land, and that the following is a full and exact description thereof :

" One object of my improvement is to substitute for the crank motion a mode of converting the reciprocating motion of a piston into a continued rotary motion, by a new combination of machinery for that purpose.

" This mode is applicable to an engine either with one or with two cylinders, and is carried into effect as follows : Alongside of the cylinder I place a shaft, the lower end of which may revolve in a step on the platform or foundation

Statement of the case.

upon which the cylinder stands, in which case it must be somewhat longer than twice the length of the cylinder, as it must extend above it to a height somewhat greater than the length of the stroke of the piston. Sometimes, however, this shaft may have its lower gudgeon only a small distance below the upper end of the cylinders, whence it must extend above it, as before. Its upper gudgeon must of course be sustained by a suitable frame. This shaft is to stand parallel to the piston-rod, from which it is to receive its revolving motion. Upon the upper end of the shaft, above the top of the cylinder, there is to be placed a solid cylinder of wood, or of any other convenient substance, of such diameter as shall cause its periphery to come nearly into contact with the piston-rod for its whole length, when the piston is raised. The solid cylinder above described is to be made to revolve in the following manner: I make a groove in it, which commences near its lower end, and, passing spirally, extends half-way round it by the time it reaches nearly to the upper end, or to a distance vertically equal to the stroke of the engine; from that point it passes down around the opposite half, and returns into itself at the point of beginning. Upon the upper end of the piston, against its side, I place a friction-roller, which is to work in the groove in the solid cylinder; the piston-rod rising between parallel guide-pieces, by which it is kept in its proper place, and its tendency to turn round by the action of the roller in the groove is checked. When the piston is down, this friction-roller will stand in the V formed by the junction of the grooves on the opposite sides, and, as it is raised, it will in its passage to the upper junction give half a revolution to the solid cylinder, and in descending will complete the revolution by the action of the friction-roller on the other portion of the groove.

“When two cylinders are used, they are to be placed parallel to each other, and at such a distance apart that the pistons of each may, in like manner, act upon the solid cylinder, the piston of one being up when the other is down. The boiler, the steam-pipe, the valves for the ad-

Statement of the case.

mission and discharge of steam, and other appendages, may be similar to some of those already in use. From the revolving shaft already described, a rotary motion may be communicated to paddle-wheels, steam-carriages, or other objects. As it is my intention, in general, to place my cylinders and revolving shaft vertically, I communicate motion to the horizontal shaft of a paddle-wheel by means of bevel-gear wheels near the lower end, or at any convenient part of the shaft; and by similar gearing, carriages may be propelled upon rail or ordinary roads.

“ When used for steamboats, I employ an improved spiral paddle-wheel, differing essentially from those which have heretofore been essayed. This spiral I make by taking a piece of metal of such length as I intend the spiral propeller to be, and of a suitable width, say, for example, eighteen inches; this I bend along the centre, so as to form two sides, say of nine inches in width, standing at right angles, or nearly so, to each other, and give to it, longitudinally, the spiral curvature which I wish. Of these pieces I prepare two or three, or more, and fix them on to the outer end of the paddle-shaft, by means of arms of a suitable length, say of two feet, more or less, in such a position that the trough-form given to them longitudinally shall be effective in acting upon the water. It must be entirely under water, and operate in the direction of the boat's way. Instead of metal, the spiral propeller may be formed of wood, and worked into the proper form,—the shape, and not the material thereof, being the only point of importance.

“ Where a capstan is required, as on board of a steamboat, I allow the upper end of the vertical shaft before described to pass through the deck of the vessel, and attach the capstan thereto, so that it may be made to revolve by the action of the shaft, using such ray-wheels and falls to connect the shaft and the capstan as will allow of their being conveniently engaged and disengaged.

“ What I claim as my invention, and for which I ask a patent, is the substituting for the crank in the reciprocating engine a grooved cylinder, operating in the manner herein-

Statement of the case.

before described, by means of its connection with the piston-rod, together with all the variations of which this principle is susceptible,—as, for example, a bar of metal may be bent in the form of a groove, and attached to the revolving shaft, and friction-wheels on the piston-rod may embrace this on each side, producing an effect similar to that produced by the groove. I also claim the spiral propelling-wheel, contracted and operating in the manner in which I have set forth ; and likewise the application of the revolving vertical shaft to the turning of a capstan on the deck of a vessel. Not intending, in either of these parts, to confine myself to precise forms or dimensions, but to vary them in such manner as experience or convenience may dictate, while the principle of action remains unchanged, and similar results are produced by similar means.

“JOHN BROWN EMERSON.”

At April Term, 1844, Emerson brought an action of trespass on the case in the Circuit Court of the United States for the Southern District of New York, against Hogg and Delamater, for an infringement of his patent-right. As one of the points decided by the court was whether or not the allegations of the declaration corresponded with the evidence of the patent, it is thought proper to insert the declaration. It was as follows, namely :

“John B. Emerson, a citizen of the State of New York, by Peter Clark, his attorney, complains of Peter Hogg and Cornelius Delamater, citizens of the same State, defendants, in custody, &c., of a plea of trespass on the case :

“For that, whereas the said plaintiff was the original inventor of a certain new and useful improvement, in the letters patent hereinafter mentioned and fully described, the same being a certain improvement in the steam-engine, and in the mode of propelling therewith either vessels on the water or carriages on the land, which was not known or used before his said invention, and which was not, at the time of his application for a patent, as hereinafter mentioned, in public use with his consent or allowance. And

Statement of the case.

the said plaintiff, being so as aforesaid the inventor thereof, and being also a citizen of the United States, on the eighth day of March, one thousand eight hundred and thirty-four, upon due application therefor, did obtain certain letters patent therefor, in due form of law, under the seal of the United States, signed by Andrew Jackson, then President, and countersigned by Louis McLane, then Secretary of State, bearing date the day and year aforesaid, whereby there was secured to him, the said plaintiff, his heirs, executors, administrators, or assigns, for the term of fourteen years from and after the date of the said patent, the exclusive right and liberty of making, using, and vending to others to be used the said improvement, as by the said letters patent in court to be produced will fully appear. And the said plaintiff further says that the said defendants, well knowing the said several premises, but contriving and wrongfully and injuriously intending to injure the plaintiff, and deprive him of the profits, benefits, and advantages which he might and otherwise would have derived and acquired from the making, using, and vending of the said invention or improvement, after the making and issuing of the said letters patent, and within the term of fourteen years in said letters patent mentioned, to wit, on the first day of January, eighteen hundred and forty, and on divers other days and times between that time and the commencement of this suit, at the city of New York, and within the Southern District of New York, wrongfully and unjustly, without the leave or license and against the will of the plaintiff, made and sold divers, to wit, ten, machines for propelling boats, in imitation of the said invention and improvement, or a part of the said invention or improvement, to the benefit, use, and enjoyment whereof the said plaintiff was and is entitled as aforesaid, in violation and infringement of the said letters patent, and of the exclusive right and privilege to which the plaintiff was and is entitled as aforesaid, and contrary to the form of the statutes of the United States in such case made and provided.

“ And the said plaintiff further says that the said defend-

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ants, well knowing the said several premises, but further contriving and intending as aforesaid, after the obtaining of the letters patent by the said plaintiff as aforesaid, and within the said term of fourteen years, to wit, on the said first day of January, eighteen hundred and forty, and at divers other times between that day and the commencement of this suit, within the Southern District of New York aforesaid, wrongfully and unjustly, without the leave or license and against the will of the plaintiff, did make and sell divers, to wit, ten, improved machines for propelling boats or vessels upon the water, constructed in a similar form and acting upon the same principle as the said machine or improvement, to the benefit, use, and enjoyment whereof the said plaintiff was and is entitled by his said letters patent as aforesaid, in violation and infringement of the exclusive right so secured to the said plaintiff by the said letters patent as aforesaid, and contrary to the form of the statute in such case made and provided.

“And the said plaintiff further says that the said defendant, well knowing the said several premises, but contriving and intending as aforesaid, after the obtaining of the said letters patent by the said plaintiff as aforesaid, and within the said term of fourteen years, to wit, on the said first day of January, eighteen hundred and forty, and at divers other times between that day and the commencement of this suit, in the Southern District of New York aforesaid, wrongfully and unjustly, and without the consent or allowance and against the will of the plaintiff, did imitate in part and make a certain addition to the said invention or improvement, to the benefit, use, and enjoyment whereof the plaintiff was and is entitled as aforesaid, in breach of the said letters patent, and in violation and infringement of the exclusive right and privilege so secured to the said plaintiff as aforesaid, and contrary to the form of the statute in such case made and provided.

“By means of the committing of which said several grievances by the said defendants as aforesaid, the said plaintiff is greatly injured, and has lost and been deprived

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of divers great gains and profits which he might and otherwise would have derived from the said invention and improvement in the said letters patent described and set forth, and in respect whereof he was and is entitled to such privilege as aforesaid, and was and is otherwise damnified to the said damage of the said plaintiff of ten thousand dollars ; and therefore," &c.

To this declaration, the defendants pleaded the general issue, and filed a copy of the special matters of defence to the action.

In May, 1847, the cause came on for trial. The patent was given in evidence, when the counsel for the defendants prayed the court to instruct the jury that the patent thus produced in evidence by the said plaintiff was void, for the reasons following :

1. That the claim of the plaintiff, as set forth in his specification annexed to his letters patent, embraces the entire spiral paddle-wheel. The claim is, therefore, too broad upon the face of it, and the letters patent are void upon this ground, and the defendants are entitled to a verdict.

2. That the patent is void upon its face, for this : that, purporting to be a patent for an improvement, and specifying that the invention is of " an improved spiral paddle-wheel, differing essentially from any which have heretofore been essayed," without pointing out in what the difference consists, or in any manner whatever indicating the improvement by distinguishing it from the previously-essayed spiral paddle-wheels, it is wanting in an essential prerequisite to the validity of letters patent for an improvement.

3. That the patent is void upon its face, for this : that it embraces several distinct and separate inventions, as improvements in several distinct and independent machines susceptible of independent operation, not necessarily connected with each other in producing the result arrived at in the invention, and the subject-matter of separate and independent inventions.

4. It appears in evidence that the drawing and model of

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the paddle-wheel of plaintiff, filed and deposited originally in the Patent Office, had been lost by the destruction of that office in December, 1836, and that in restoring the record of the patent, under the act of March, 1837, the plaintiff sent from New Orleans to the office a new drawing, to be filed on the 5th of May, 1841, together with a court copy of the letters patent which were deposited in the office. The drawing was not sworn to by the plaintiff, but remained in the office till January, 1844, when it was delivered to an agent of the plaintiff and sent to New Orleans, and sworn to by him, and filed in the department on the 12th of February, 1844. On an examination subsequently by the plaintiff, it was discovered that this drawing was imperfectly made, and thereupon a second drawing was procured by him, which he claimed and offered to prove to be an accurate one, and was sworn to and filed on the 27th of March, 1844, an authenticated copy of which was offered in evidence on the trial by the plaintiff, which was objected to by the counsel for the defendants; but the objection was overruled, and the evidence admitted, to which an exception was taken.

5. That if, from the evidence, the jury are satisfied that no propelling-wheels were made by the defendants between the 27th of March, 1844, (the date of the alleged completion of the record of the plaintiff's patent, under the act of March 3d, 1837,) and the commencement of this suit, in April following, that, upon this ground, the defendants are entitled to a verdict.

The court charged, in respect to the instructions prayed for, that "the claim of the plaintiff was for an improvement on the spiral paddle-wheel or propeller; that, by a new arrangement of the parts of the wheel, he had been enabled to effect a new and improved application and use of the same in the propulsion of vessels; that the ground upon which the claim is grounded was this: it is the getting rid of nearly all the resisting surface of the wheels of Stevens, Smith, and others, by placing the spiral paddles or propelling surfaces on the ends of arms, instead of carry-

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ing the paddles themselves in a continued surface to the hub or shaft. It is claimed that a great portion of the old blade not only did not aid in the propulsion, but actually impaired its efficiency, and also that the improved wheel is made stronger. It was made a question, on the former trial, whether the plaintiff did not claim, or intend to claim, the entire wheel. But we understand it to be for an improvement upon the spiral paddle-wheel, claimed to be new and useful in the arrangement of its parts, and more effective, by fixing the spiral paddles upon the extremity of arms, at a distance from the shaft."

The court further instructed the jury, that "the description of the invention was sufficient, and that the objection that the parts embraced several distinct discoveries was untenable."

The court further charged, "that the damages were not necessarily confined to the making of the wheels between March, 1844, when the drawings were restored to the Patent Office, and the bringing of the suit. Such a limitation assumes that there can be no infringement of the patent after the destruction of the records, in 1836, until they are restored to the Patent Office, and that during the intermediate time the rights of patentees would be violated with impunity." We do not assent to this view.

In the first place, the act of Congress providing for the restoration was not passed till 3d March, 1837; and in the second place, in addition to this, a considerable time must necessarily elapse before the act would be generally known, and then a still further period before copies of the drawings and models could be procured. Patentees are not responsible for the fire, nor did it work a forfeiture of their rights.

The ground for the restriction claimed is, that the community have no means of ascertaining, but by a resort to the records of the Patent Office, whether the construction of a particular machine or instrument would be a violation of the rights of others, and the infringement might be innocently committed.

But if the embarrassment happened without the fault of

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the patentee, he is not responsible for it ; nor is the reason applicable to the case of a patent that has been published, and the invention known to the public. The specification in this case had been published. It is true, if it did not sufficiently describe the improvement without the aid of the drawing, this fact would not help the plaintiff. If there had been unreasonable delay and neglect in restoring the records, and in the meantime a defendant had innocently made the patented article, a fair ground would be laid for a mitigation of the rule of damages, if not for the withholding them altogether ; and the court left the question of fact as to reasonable diligence of the patentee or not in this respect, and also all questions of fact involved in the points of the case for the defendants, to the jury.

The counsel for the defendants excepted to each and every part of the charge of the court, so far as said charge did not adopt the prayer on the part of the defendants.

The verdict of the jury was, that the said Peter Hogg and Cornelius Delamater, the defendants, are guilty of the premises within laid to their charge, in manner and form as the said John B. Emerson hath within complained against them, and they assess the damages of the said plaintiff, on occasion thereof, over and above his costs and charges by him about this suit in this behalf expended, at one thousand five hundred dollars, and for those costs and charges at six cents.

The judgment of the court was, that the said John B. Emerson do recover against the said Peter Hogg and Cornelius Delamater his damages, costs, and charges in form aforesaid by the jurors aforesaid assessed, and also three hundred and twenty-four dollars and fifteen cents, for his said costs and charges by the said court now here adjudged of increase to the said John B. Emerson, and with his assent ; which said damages, costs, and charges, in the whole, amount to one thousand eight hundred and twenty-four dollars and fifteen cents.

The cause was argued on this court, on printed arguments, by *Mr. Upton* and *Mr. John O. Sargent*, for the

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plaintiffs in error, and *Mr. Morton* and *Mr. Cutting*, for the defendant in error. The arguments were too voluminous to be reported *in extenso*, and it is not possible, therefore, to give more than extracts from each.

The counsel for the plaintiffs in error assigned as errors the following points :

I. The defendant in error has no patent for an improved spiral paddle-wheel.

II. If the defendant's patent is for the combination of instruments described in the specification, there is no pretence that the combination has been infringed ; if for several separate improved machines, it cannot be supported in law.

III. Defendant's patent is void for too broad a claim, and for not distinguishing his alleged improvement from other inventions, nor particularly specifying, as the statute requires, the particular improvement which he claims as his own invention or discovery. The case exhibits an improvement as the invention, and the claim is for the whole machine.

IV. The drawing filed March 27th, 1844, was not legal evidence of defendant's patented invention, because there was a drawing filed by the patentee on the 12th of February previous, which was, by the second section of the act of 1837, with his letters patent, the only legal evidence of his invention, *as patented*, that could be offered in any judicial court of the United States.

V. 1. The patentee, after an alleged correction of the record of his letters patent, by filing the second drawing, could not, in law, avail himself of that alleged correction to cover by it alleged causes of action previously accruing ; and in the absence of proof of any subsequent infringements, the plaintiffs here were entitled to a verdict below.

2. Nor was he entitled to recover damages for any alleged infringement prior to the alleged *completion* of his record by the filing of the corrected drawing of 27th March, 1844.

VI. What was reasonable time in this case for the resto-

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ration of defendant's patent to the office, if not expressly fixed by statute, (act of 1837, section 2,) was exclusively a question of law.

Mr. Upton, for plaintiffs in error.

1. This action was brought to recover damages from the defendants below, for their asserted infringement of an alleged patent of the plaintiff for "an improved spiral paddle-wheel"; and the first question to which the attention of the court is requested is one which is presented upon the face of the letters patent, which constitute the basis of the action, and which are incorporated into the bill of exceptions. It is this: Has the defendant in error any such patent?

If it be manifest to this court, upon an inspection of the record and an examination of the letters patent, that he has no grant, as patentee, of "an improved spiral paddle-wheel," then it is submitted that there is no escape from the necessity of reversing the judgment which has been rendered, awarding him damages for the invasion of such a grant. This necessity is in no manner affected, though it appear that the objection was not taken in the court below, either at the trial or upon a motion in arrest of judgment. It is sufficient if the defect be manifest upon the record; for it would be monstrous to contend that this court is powerless, in any case, to reverse the judgment, when it appears upon the record before them that the very foundation of the judgment is so incurably and fatally defective as to have been completely beyond the remedy of the party, though the objection were taken at the earliest possible stage of the proceedings. Authority can scarcely be necessary to sustain this position. But this court has decided, in the case of *Slacum v. Pomeroy*, 6 Cr. 221, that it is not too late to allege as error in the Supreme Court a defect which ought to have prevented the rendition of the judgment in the court below. "Had this error," say the court, "been moved in arrest of judgment, it is presumable the judgment would have been arrested;" and "there can be

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no doubt that anything appearing upon the record which would have been fatal upon a motion in arrest of judgment is equally fatal upon a writ of error." So also *Garland v. Davis*, 4 Howard, 131.

By the bill of exceptions, it appears that, upon the introduction in evidence of the letters patent by the plaintiff, "the counsel for the defendants did insist before the said Circuit Court, on behalf of said defendants, that the said letters patent so produced and given in evidence on the part of said plaintiff as aforesaid were wholly insufficient as the basis of the aforesaid action and claim upon the said defendants." Now, by reference to the letters patent, (page 7 of the record,) the court will perceive that the grant to the patentee, upon the face of the letters, is for "an improvement in the steam-engine," and for that alone; that it was for that alone that he solicited a patent by petition; that it was of that improvement only that he made oath that he was the original and first inventor. Such is the grant, and so is it recorded; and the public would seek in vain upon the records of the Patent Office for a patent to the plaintiff below for "an improved spiral paddle-wheel."

It will not be contended that the letters, standing alone, confer any title to such an invention. But it may be said, that inasmuch as the patentee has described a paddle-wheel, and also an improved method of causing a capstan to revolve upon the deck of a vessel, as well as his improvement in the steam-engine, and claimed these as well as his steam-engine in his schedule annexed to the letters patent, the grant must be construed to cover the paddle-wheel and the capstan as well as the steam-engine, though it be in express terms for the steam-engine only, though it was for that alone that he solicited a patent, and it was that alone that he made oath he had invented. Were this doctrine maintainable, it is obvious that it would be wholly subversive of the policy of the law, which looks as well to the protection of the public as it does to the encouragement of inventors. That the schedule annexed to letters patent forms a part of the patent, and that they are to be con-

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strued together, is undoubtedly well established. This is the English doctrine, as well as that of our own courts; and, by a careful investigation of the authorities, it will be perceived that Mr. Phillips, in his elementary work, (pages 224, *et seq.*,) is mistaken in supposing that there is any conflict between them.

By these authorities, it is decided that the title of the invention, as contained in the patent, may be explained by its description in the specification, whenever such title is general, ambiguous, or uncertain; and the patent will be sustained, in all cases, unless the patent indicate one invention, and the specification describe another and different invention. American authorities.—Phillips on Patents, 224, and cases cited; Sullivan v. Redfield, Paine C. C. R. 442; Shaw v. Cooper, 7 Peters, 292, 315 [4 Am. & Eng. 284]; Evans v. Chambers, 2 Wash. C. C. R. 125; Barrett v. Hall, 1 Mason, 476; Whittemore v. Cutter, 1 Gall. 437; Evans v. Eaton, Peters' C. C. R. 341. English authorities.—Godson on Patents, 108, 113, and cases; Neilson v. Harford, Webster, 312 [3 Am. & Eng. 231], and arg.; Rex v. Wheeler, 2 Barn. & Ald. 350 [1 Am. & Eng. 317]; S. C., 3 Merivale, 629; Glegg's Patent, Webster, 117; Russell v. Cowley, Webster, 470 [2 Am. & Eng. 76]; Househill v. Neilson, Webster, 679.

When Mr. Phillips says (Phillips on Patents, 225) that any defect in the title may be remedied by the specification, what he means is apparent by reference to the cases which he cites. The description comes in aid of a defective title, but never can create a new title, by adding to the grant. There must be such a conformity between the title and the specification as that the former shall give some idea of the latter. It is the description of the thing patented "which is made part of these presents,"—not a description of something else, of which the title of the grant gives no idea.

Thus reads the patent itself. After reciting that John Brown Emerson had, by petition, solicited a patent for an improvement in the steam-engine, had made oath that he was the first and original inventor of said improvement,

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and paid the fee of thirty dollars into the treasury, it grants to him the exclusive right, &c., in the said improvement, "a description whereof is given, in the words of the said John Brown Emerson himself, in the schedule hereunto annexed, and is made a part of these presents." Then follows the caption of the schedule, thus: "The schedule referred to in these letters patent, and making part of the same, containing a description, in the words of the said John Brown Emerson himself, of his improvement in the steam-engine."

No reported authority can be found in the remotest degree sustaining the proposition that a description and claim of anything contained in a specification are covered by the grant, though the grant make no reference to it, and the title is so entirely distinct from it as to suggest no idea of the thing described. Were this proposition tenable, then were we to strike out from this patentee's specification every word descriptive of his improvement in the steam-engine, leaving nothing but the comparatively few words descriptive of the spiral paddle-wheel and the improved capstan, the grant for the improvement in the steam-engine must be construed as a grant for an improved spiral paddle-wheel and an improved capstan. Now, would it not be monstrous to contend that an instrument of so solemn a character as a government grant of letters patent is to be added to and enlarged by construction?

The doctrine as settled, upon every principle of construction, is the true doctrine—that the description of the thing patented, contained in the schedule annexed to the patent, constitutes a part of the patent, and may be and should be resorted to, in construing the patent, to control the generality of the title, and to explain or elucidate ambiguities or uncertainties; but that a description of a thing not indicated by the patent, not even remotely suggested by the grant or the title, can never be construed with the patent, for the purpose of adding to or enlarging the terms of the grant.

That this doctrine may be made more obvious and con-

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clusive, (if it be possible or desirable,) the court is referred to the provisions of the statute under which the letters patent in this case issued.

The inventor is required to present his petition soliciting the patent, and to make oath that he is the inventor. The statute further requires that the letters patent shall recite the allegations and suggestions of the petition, and give a short description of the invention. This requisition was obviously for the twofold purpose: first, that it might appear that the proper preliminary steps had been taken by the applicant, of which the recital in the letters was proof; and, second, that it might, on their face, be seen what was the nature and character of the grant. Act of 1793, sections 1, 3. Now, did this patentee present his petition, soliciting a patent for an improved spiral paddle-wheel, and make oath that he was the inventor of that improvement? If it be answered that he did, then the positive requisition of the statute is not complied with; for the patent recites the allegations and suggestions of no such petition, and gives a short description of no such invention; and for this reason the patent would be absolutely void.

This is well established in the following cases: *Evans v. Eaton, Peters'* C. C. R. 340; *Kneass v. Schuylkill Bank*, 4 Wash. C. C. R. 9; *Cutting et al. v. Myers*, 4 Wash. C. C. R. 220; *Evans v. Chambers*, 2 Wash. C. C. R. 125.

If the letters patent do recite the allegations and suggestions of the petition, then the patentee did not solicit a patent for "an improved spiral paddle-wheel" or an "improved capstan"; he did not make oath that he had invented these improvements; and hence the letters contain no description whatever of these improvements, and confer no grant of an exclusive right in them upon the patentee.

(The counsel then quoted largely from the opinion of Judge WASHINGTON in *Evans v. Eaton, Peters'* C. C. R. 340.)

II. At the trial, the defendants' counsel requested the court to instruct the jury, "that the patent of the plaintiff was void upon its face, for this: that it embraces several

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distinct and separate inventions, as improvements in several distinct and separate machines susceptible of independent operation, and not necessarily connected with each other in producing the result aimed at in the invention, and the subject-matter of separate and distinct patents." The court charged the jury, that "the objection that the patent embraced several distinct discoveries is untenable." In this it is respectfully submitted that the court below erred.

(The counsel here cited and commented on Phillips on Patents. "It is well settled, that two or more distinct machines, capable of independent operations, cannot be united in one patent." [Evans v. Eaton] 3 Wheat. 454 [4 Am. & Eng. 16]; [Barrett v. Hall] 1 Mason, 447; [Moody v. Fiske] 2 Mason, 112; [Wyeth v. Stone] 1 Story, 290.)

III. At the trial of this case, the counsel for the defendants requested the court to instruct the jury, "that the claim of the plaintiff, as set forth in his specification annexed to his letters patent, embraces the entire spiral paddle-wheel. The claim is, therefore, too broad upon the face of it, and the letters patent are void upon this ground." Upon this point the court charged the jury as follows: "It was made a question, on the former trial, whether the plaintiff did not claim the entire wheel; but we understand it to be for an improvement upon the spiral paddle-wheel, claimed to be new and useful in the arrangement of its parts, and more effective, by fixing the spiral paddles upon the extremity of arms, at a distance from the shaft."

IV. At the trial, the counsel for the defendants also requested the court to instruct the jury, "that the patent is void upon its face for this: that, purporting to be a patent for an improvement, and specifying that the invention is of an improved spiral paddle-wheel, 'differing essentially from any that have heretofore been essayed,' without pointing out in what the difference consists, or in any manner whatever indicating an improvement by distinguishing it from the previously essayed spiral paddle-wheels, it is wanting in an essential prerequisite to the validity of letters patent for an improvement." Upon this point the court charged

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the jury as follows : " That the claim of the plaintiff was for an improvement on the spiral paddle-wheel or propeller ; that, by a new arrangement of the parts of the wheel, he has been enabled to effect a new and improved application and use of the same in the propulsion of vessels ; that the ground upon which the claim is founded is this : it is getting rid of nearly all the resisting surface of the wheels of Stevens, Smith, and others, by placing the spiral paddles or propelling surfaces on the ends of arms, instead of carrying the paddles themselves in a continued surface to the hub or shaft. It is claimed that a great portion of the old blade not only did not aid in the propulsion, but actually impaired its efficiency, and also that the improved wheel is much stronger." And the court further charged the jury, that " the description of the invention was sufficient."

Upon these two points, it is submitted that the court below erred. They are so connected, by reason of the peculiar circumstances of the case, that they will be presented and considered together, though they are distinct grounds of objection to the patent.

(The counsel then contended that the specification ought to be construed by itself, and be so clear as to be understood without resorting to evidence or any other source of information, and cited : English authorities.—*McFarlane v. Price*, 1 Starkie, 199 [1 Am. & Eng. 227] ; *In re Nickels*, Hindmarch on Patents, 186 ; *Hill v. Thompson*, 3 Merivale, 622 [1 Am. & Eng. 285] ; S. C., 8 Taunton, 325. American authorities.—*Dixon v. Moyer*, 4 Wash. C. C. R. 69 ; *Evans v. Hettich*, 3 Wash. C. C. R. 425 ; *Lowell v. Lewis*, 1 Mason C. C. R. 189 ; *Ames v. Howard*, 1 Sumner, 482.)

This leads to the principle in the law of patents involved in the fourth point. It is the positive requisition of the statute, and has been repeatedly considered and passed upon by the Federal judicial tribunals.

Before an inventor shall receive a patent, he is required, " in case of any machine, fully to explain the principle and the several modes in which he has contemplated the application of that principle, or character by which it may be

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distinguished from other inventions, and shall particularly specify and point out the particular improvement or combination which he claims as his own invention or discovery." The requisition of the English law is similar in this respect.

Now, before proceeding to consider whether the patentee, in this case, has complied with this positive and salutary requisition of the law, the attention of the court is requested to the reported cases in which the requisition has received judicial construction.

By a careful examination of these authorities, it will be found established, that, where a patent is taken out for an improvement, the specification must describe what the improvement is, and the patent be limited to such improvement. If the patent includes the whole machinery, it includes more than the patentee invented, and is therefore void. That if the patent be for an improvement in an existing machine, the patentee must, in his specification, distinguish the new from the old, and confine his patent to such parts only as are new; and if both be mixed up together, and a patent is taken for the whole, it is void. That however the authorities may apparently vary in pointing out the particular manner in which the patentee must specify his improvement, and distinguish what he claims as new and his invention from what was old and before known, yet that they are in perfect harmony in deciding that he must do this in some manner, and upon the face of the specification. American authorities.—*Evans v. Eaton*, 3 Wheat. 454 [4 Am. & Eng. 16]; *Woodcock v. Parker*, 1 Gall. 438; *Whittemore v. Cutter*, 1 Gall. 478; *Odiorne v. Winkley*, 2 Gall. 51; *Lowell v. Lewis*, 1 Mason, 182; *Barrett v. Hall*, 1 Mason, 447; *Sullivan v. Redfield*, Paine's C. C. R. 441; *Evans v. Eaton*, 7 Wheat. 408 [4 Am. & Eng. 105]; *Dixon v. Moyer*, 4 Wash. C. C. R. 69; *Isaacs v. Cooper*, 4 Wash. C. C. R. 261; *Cross v. Huntley*, 13 Wend. 385; *Head v. Stevens*, 19 Wend. 411; *Ames v. Howard*, 1 Sumner, 482; *Kneass v. Schuylkill Bank*, 4 Wash. C. C. R. 9; *Morris v. Jenkins et al.*, 3 McLean, 250; *Peterson v. Woodson*, 3 McLean, 248. English cases.—*McFarlane v. Price*,

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1 Starkie, 199 [1 Am. & Eng. 227]; Williams v. Brodie, Davies' Patent Cases, 96, 97; Manton v. Manton, Davies' Patent Cases, 349 [1 Am. & Eng. 189]; Hill v. Thompson, 8 Taunton, 325 [1 Am. & Eng. 285]; Minter v. Wells, 1 Webster, 130 [2 Am. & Eng. 26, 47]; Rex v. Nickels, Hindmarch on Patents, 186.

Now, apply the rule of law, as prescribed by the statute and construed by these authorities, to the patent in this case. Admit that rule, as most liberally stated, in any reported decision, and the counsel respectfully asks, in what manner, upon the face of the patentee's specification, has he distinguished that which he claims as new and his invention from what was old and before known, or pointed out in what his improvement consists? It is most confidently answered that he has done this in no manner whatever, neither expressly nor by implication, nor by any reference; and it is not in the wit of man to determine, upon the face of the specification, what the improvement is which the patentee claims, or intended to claim. The court below, in their construction of the claim, in charging the jury, say that the improvement consists "in a new arrangement of the parts." Does this appear, either in terms or even impliedly, upon the face of the description? So far from this, the last words of the patentee, in his description, are, that the "shape" of the thing is the "only point of importance." The court further say, that this new arrangement of the parts consist in "getting rid of nearly all the resisting surface of the wheel of Stevens, Smith, and others, by placing the spiral paddles or propelling surfaces on the ends of arms, instead of carrying the paddles themselves in a continued surface to the hub or shaft."

Where, upon the face of the description, is there any mention made of Stevens', Smith's, or of any previously-invented wheel, save in the general declaration by the patentee, that his improved wheel "differs essentially from any which have been heretofore essayed,"—a declaration which the court, in the case of Barrett v. Hall, above cited, declared to be "no specification at all"? And where, upon the face of the specification, is there the

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most remote allusion to the "getting rid of resisting surface" ?

V. At the trial of the case, "it appeared in evidence that the drawing and model of the paddle-wheel of the plaintiff, filed and deposited originally in the Patent Office, had been lost by the destruction of that office in December, 1836, and that in restoring the record of the patent, under the act of March, 1837, the plaintiff sent from New Orleans to the office a new drawing, to be filed on the 5th of May, 1841, together with a court copy of the letters patent which were deposited in the office. The drawing was not sworn to by the plaintiff, but remained in the office till January, 1844, when it was delivered to an agent of the plaintiff and sent to New Orleans, and sworn to by him, and filed in the department on the 12th day of February, 1844. On an examination subsequently by the plaintiff, it was discovered that this drawing was imperfectly made, and thereupon a second drawing was procured by him, which he claimed and offered to prove to be an accurate one, and was sworn to and filed on the 27th day of March, 1844, an authenticated copy of which was offered in evidence on the trial by the plaintiff, which was objected to by the counsel for the defendants; but the objection was overruled, and the evidence admitted, to which an exception was taken."

It is contended, that the Circuit Court erred in admitting in evidence the second drawing of March 27th, 1844, and in support of this position the following considerations are respectfully submitted :

(The counsel then urged—

That the patentee had exhausted his privilege when he swore to the first drawing.

That if allowed to file more than one, he might continue to file them down to the day of trial.

That the first drawing became, by the statute, *prima facie* evidence of the invention, and there could not be two such.

That if this patentee had procured a reissue of his patent, under the third section of the act of 1837, he would not

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have been entitled to the privilege which he now claims, and it is unreasonable to suppose that Congress intended to give greater privileges under one section than another.)

VI. At the trial of this case, the counsel for the defendants requested the court to instruct the jury as follows: "That if, from the evidence, the jury are satisfied that no propelling wheels were made by the defendants between the 27th of March, 1844, (the date of the alleged completion of the record of the plaintiff's patent, under the act of March 3d, 1837,) and the commencement of this suit in April following, that, upon this ground, the defendants are entitled to a verdict."

The court refused to grant this prayer, and left it, as a question of fact, for the jury to say whether there had or had not been unreasonable delay on the part of the patentee in restoring the record. Now, was this a question of fact? It is submitted that it was not, but that, under the circumstances, it was purely a question of law, to be passed upon by the court.

The record shows, that, from the burning of the Patent Office, in December, 1836, up to the month of May, 1841, no step whatever was taken by the patentee to restore the record of his patent, and that he then delayed to complete the record until the month of February, 1844. Of course, there could have been no dispute as to the fact in connection with the question of reasonable or unreasonable diligence. Now, the authorities are clear in establishing this doctrine—that when there is no dispute as to the facts, the questions of reasonable or unreasonable time, or delay, or diligence, are questions of law for the court, and not of fact for the jury. The following cases are referred to: *Ellis v. Paige*, 1 Pick. 43; *S. C.*, 2 Id. 71, 77, note; *Gilbert v. Moody*, 17 Wend. 354; *Reynolds v. Ocean Ins. Co.* 22 Pick. 191; *Livingston & Gilchrist v. Maryland Ins. Co.* 7 Cr. 506.

And now, as to the charge of the court, that "the damages were not necessarily confined to the making of the wheels between March, 1844, when the drawings were restored to the Patent Office, and the bringing of this suit."

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Is not this error? Why was the drawing of March 27th, 1844, filed in the Patent Office? For the reason only, as avowed, that the drawing of February preceding was incorrect and defective. For the reason only, that the public had no notice, or, what is still worse, that the public had an imperfect and deceptive information, by the first drawing, of the particulars of the patentee's invention. Would it not be monstrous to allow a patentee to recover damages for an alleged infringement made at a time when, by his solemn oath, he declares that the defendant was not notified of the character of his invention? Nay, more, when he swears that, at the time of the alleged infringement, the only recorded notice of his invention, sworn to by himself, was imperfect, incorrect, and insufficient?

But, by an examination of the grounds upon which the court rest their decision upon this question, it will be seen in what manner the error has arisen. The court say, the limitation contended for by the defendants "assumes that there can be no infringement of the patent after the destruction of the records in 1836, until they are restored to the Patent Office, and that during the intermediate time the rights of patentees would be violated with impunity." With the greatest deference, it will appear, upon a consideration of the statute provisions, that the doctrine contended for involves no such assumption.

The second section of the act of 1837 provides for the very difficulty which is urged by the court as the sole objection to the limitation contended for. Foreseeing that some time must necessarily elapse before patentees could be informed of their rights and duties, and prepare copies of their patents and drawings and models, Congress has provided, in this section, that, from the 15th of December, 1836, when the Patent Office was burned, to the 1st day of June, 1837, and not after, patentees and others may give in evidence their patents in any court, notwithstanding that they have not been re-recorded, and no verified drawing of the invention has been filed in the Patent Office.

Is there not great danger, in the disposition to give the

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most liberal and enlarged interpretation to statute provisions for the protection and encouragement of inventors, that the rights of the public may be too much disregarded ?

By the burning of the Patent Office, something more was involved in the loss of the evidences of the rights of patentees. The public were thereby deprived of the only notice which the law recognizes of what they could and what they could not do, without being subjected to prosecutions for invasions of patent-rights ; for the public, in the language of Judge WASHINGTON, in a case before cited, " can depend upon no other information, to enable them to avoid the consequences of litigation, than what the records may afford. No description of the discovery secured by a patent will fulfil the demands of justice and of the law, but such as is of record in the Patent Office, and of which all the world may have the benefit."

Now, Congress, in legislating to repair the loss of the Patent Office, and to provide against its natural consequences, had in view the protection of the public as well as patentees ; and while, on the one hand, it was justly considered that patentees ought not to suffer by reason of a loss arising from no fault of theirs, on the other, it was as justly considered that the public ought not to suffer by reason of a too long delay on the part of patentees to furnish to the public anew the recorded descriptions of their inventions. Thus, the second section of the act of 1837, saving the rights of patentees, enables them to recover damages for infringements after the burning of the Patent Office, and down to the month of June, 1837, notwithstanding the non-existence of any public record of their inventions ; but, saving the rights of the public, the statute gives no further time.

Is not this clear ? And being so, is it not manifest that the court below erred in the instructions given to the jury upon this point ?

The drawing of the patentee, annexed to his patent or referred to in his specification, constitutes a part of the patent, and oftentimes, as in this case, is the most material

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portion of the description,—without which the invention would be virtually undescribed. Now, when a patentee alters or amends his patent, whether in the *written* description or the *delineated* description, there is nothing better established than that he cannot recover damages for an alleged infringement committed prior to such amendment. The authorities to this point are conclusive, and in perfect uniformity; some of them, and those the most recent, going so far as to maintain that it makes no difference though the amendment be of a mere clerical error. *In re Nickels*, Turner & Phillips, 44; S. C., 1 Webster, 659; Hindmarch on Patents, (English edition,) 216, *et seq.*; Wyeth v. Stone, 1 Story, 290; Woodworth v. Hall, 1 Woodb. & Minot, 248, 389.

It is submitted that a denial of the doctrine here urged on behalf of the plaintiffs in error would be equivalent to an abrogation of the provisions of the thirteenth section of the Patent Act of 1837, which declares that a patent can only be amended by a surrender and reissue, and that the amended patent can only operate upon causes of action accruing subsequently to the amendment.

Construe the first section of the act of 1837 as the court below has construed it, and what is the consequence? A patentee, whose grant is dated on or before the 14th of December, 1836, may maintain actions for infringement of his rights from then to the present time, without any public record of his patent whatsoever being in existence during the entire period, provided he produces at the trial an authenticated copy of his patent and drawings from the Patent Office, recorded there, perhaps, but the day before! From this consequence, it is submitted, there could be no escape; and small, indeed, would be the hope of escape for the innocent invader of the unrecorded right, with the question of reasonable diligence in the restoration of the record left to the decision of a jury.

Mr. Morton and Mr. Cutting, for the defendant in error.

I. The first point raised by the plaintiffs in error does not

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properly arise. The jury rendered a verdict for \$1,500 damages. The amount in controversy being less than \$2,000, the defendants below had no right to remove the cause to this court. They moved the Circuit Court for a new trial upon a case made, which motion was denied, and judgment was docketed upon the verdict. The defendants below then applied to the Circuit Court for the allowance of a writ of error, under the seventeenth section of the act of Congress approved July 4th, 1836, which authorizes writs of error in patent cases to the Supreme Court of the United States, in the same manner and under the same circumstances as was then provided by law in other judgments and decrees of Circuit Courts, "and in all other cases in which the court should deem it reasonable to allow the same."

Having no right to a writ of error, therefore, unless the judges of the Circuit Court "should deem it reasonable to allow the same," application for the writ was made to the discretion of the court; and the application was granted so far as to allow the defendants to raise, for the consideration of the Supreme Court, five points specified by the court below, and which constitute the second, third, fourth, fifth, and sixth points now presented by the plaintiffs in error.* The defendants availed themselves of the permission to issue a writ of error, restricted as above stated, and now, after the writ has been allowed, they seek to argue a question not embraced in those specified by the court.

It is respectfully submitted that this course ought not to

* Writ of error allowed in respect to the question—

1. Whether the patent is void as embracing two or more distinct and independent inventions or improvements.
2. Whether the claim is for an entire paddle-wheel, or only for an improvement.
3. Whether the new is sufficiently distinguished from the old.
4. Whether the corrected drawing was properly allowed and filed.
5. Whether the rule of damages was correct, on condition that case be submitted on written argument to Supreme Court at an ensuing term, before 1st February, and judgment to be secured by filing the usual bond.

A copy of Judge Nelson's indorsement on petition for writ of error.

ALEX'R GARDINER, *Clerk.*

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be encouraged, and that the grounds discussed in the first point taken by the plaintiffs in error need not be considered by the counsel for the patentee. It may be briefly remarked, however, that the point referred to was not raised at the trial, and does not appear upon the face of the record, or even upon the bill of exceptions. It was insisted below that the patent was void for the reasons specified in the bill of exceptions. The court will search in vain for the question attempted to be discussed by the counsel for the plaintiffs in error in his first point.

Even if it were raised by the bill of exceptions, and were a point that could be argued here, it would be untenable. The argument appears to be, that the patentee has no patent for "an improved paddle-wheel," because the title of the grant is for an improvement in the steam-engine, and the counsel for the plaintiffs in error argues as if the letters and the schedule were not a part of the same instrument. By taking the whole patent together, that is, the letters and the specification, there can be no difficulty in ascertaining the extent of the patent. It grants to the patentee the right "of making, constructing, using, and vending to others to be used the said improvement, a description whereof is given, in the words of the said patentee himself, in the schedule hereto annexed, and is made a part of these presents."

Thus, the schedule is made a part of the patent, as much as if it were recited in the letters themselves. The grant is for the improvement described in the schedule; and, by referring to the schedule, the improved paddle-wheel is distinctly embraced as a part of the claim.

In the construction of patents, the schedule annexed must be always kept in view and resorted to, in order to ascertain what is the invention claimed and patented. If the claim or specification be more extensive than the actual invention, the patent may be void in part or in whole, for that reason; but there can be no doubt that, *prima facie*, the patentee has a grant for all that he claims in the schedule annexed to his patent. The description in the letters

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of the thing invented is always very brief, because it points to and incorporates the patentee's specification and description annexed, and which usually sets forth minutely the whole claim.

The argument on the other side, as to the effect of a variation between the title of the patent and the thing patented and described in the schedule, assumes that a good and perfect specification and description of the invention claimed by the patentee may be utterly defeated by a defect in the title, so that a specification and claim free from all ambiguity will be rendered utterly worthless by a defect in what the counsel terms "the title" of the patent. A rule of construction so harsh and unreasonable would be most destructive in its consequences. If applied to the interpretation of statutes, it would nullify many of them that are free from doubt. Not many of the acts of Congress would stand, if defective titles were declared to be fatal to the laws themselves.

The Patent Act of 1793, section first, provides that the Secretary of State may cause letters patent to be granted, "giving a short description of said invention or discovery." When the patentee presents his specification, it is referred to in and made a part of the patent; and it is from the patent, with schedules and drawings taken together, that it is to be determined what thing is intended to be patented. *Pitt v. Whitman*, 2 Story, 621. Any defect in the title is remedied by a proper description in the schedule. *Barrett v. Hall*, 1 Mason, 477; *Whittemore v. Cutter*, 1 Gall. 437; *Phil. Pat.* 224, 225.

In England, the rule appears to be different. There, the patent is distinct from the specification, and controls it in construction, so that the patentee cannot cover anything by the specification which is not embraced in the patent. *Campion v. Benyon*, 3 Brod. & Bingh. 5 [1 Am. & Eng. 345]; *The King v. Wheeler*, 2 Barn. & Ald. 345 [1 Am. & Eng. 317].

II. But the plaintiffs insist that the patent "is void, for the reason that it embraces several distinct and separate

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inventions as improvements in several distinct and independent machines susceptible of independent operation, not necessarily connected with each other, in producing the result arrived at in the invention, and the subject-matter of separate and independent inventions."

It is clear, from the specification, that the patentee claims to have discovered an improvement in the steam-engine, and, with it, in the mode of propelling vessels. He substitutes for the crank motion a mode of converting the reciprocating motion of a piston into a continued rotary motion, by a new combination of machinery for that purpose. From the revolving shaft described by him, a rotary motion may be communicated to paddle-wheels or other objects. When used for steamboats, the patentee employs the improved paddle-wheel described by him, which is necessarily to be worked in connection with the other machinery. When a capstan is required, as on board of a steamboat, he describes the mode of connecting the shaft of the engine with the capstan, so that it may be made to revolve by the action of the shaft; and he claims as his invention the substituting for the crank, in the reciprocating engine, a grooved cylinder, operating as described; the paddle-wheel constructed and operating as set forth; and the application of the revolving vertical shaft to the turning of a capstan.

Now, it is manifest that the invention is a mechanical unity. The improved engine and paddle-wheel are intended to act together, and if a capstan be used, the improved engine is made to connect with and turn the capstan, as it does the paddle-wheels. Although the engine may be applied to the old-fashioned wheel, and though it may or may not be attached to the capstan, yet it is manifest that the improved engine, connected with the paddle-wheel or with a capstan, may be used in connection to produce or aid the result designed by the patentee, namely, the propulsion or navigation of a vessel.

(The remainder of the argument upon this head is omitted.)

III. The defendants prayed the court to instruct the jury

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"that the claim of the plaintiff, as set forth in his specification annexed to his letters patent, embraced the entire spiral paddle-wheel. That the claim was, therefore, too broad upon the face of it, and the letters patent were void upon that ground."

The court charged the jury that "it was made a question, on the former trial, whether the plaintiff did not claim, or intend to claim, the entire wheel; but we understood it to be for an improvement upon the spiral paddle-wheel."

The counsel for the plaintiffs in error supposes that the court below arrived at this conclusion, not from the face of the patent, but from matters *dehors* the specification. This assertion is unfounded. The view of the court below is the result of a just construction of the patent itself.

It is difficult to perceive by what course of argument the patent can be shown to be too broad upon its face. By the expression "too broad," I presume, it is intended that the patentee claims more than he has invented. This is usually a question of fact, dependent upon the proofs at the trial. The face of this patent certainly does not disclose the fact that the patentee has a grant for anything of which he does not claim to have been the inventor. The counsel for the plaintiffs has not discussed this point, except so far as his observations under his fourth point may be applicable to it; and it is, therefore, not deemed necessary here to enlarge further upon this branch of the case, except to observe that the patentee does not claim to be the inventor of paddle-wheels, nor of "wheels acting on the spiral or screw principle;" on the contrary, he refers to wheels previously "essayed," upon which wheels the patentee claims to have improved. What he does claim, then, is an improved spiral propelling-wheel, constructed and operating under water in the manner described, which improvement, as described in the schedule, is new, and is the invention of the patentee.

IV. It is insisted that the court below ought to have charged the jury as prayed for, namely, "that the patent is void upon its face, for this: that, purporting to be a

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patent for an improvement, and specifying that the invention is of an improved spiral paddle-wheel, differing from any which have heretofore been essayed, without pointing out in what the difference consists, or in any manner whatever indicating the improvement by distinguishing it from previously-essayed spiral paddle-wheels, it is wanting in an essential prerequisite to the validity of letters patent for an improvement."

The court refused so to charge, and held that the description of the invention was, in this respect, sufficient.

The point now raised is one purely technical, because it must be assumed, after verdict, and upon the bill of exceptions, that the patentee was the real inventor of what he claims; that, *de facto*, he has not claimed as new that which had been known before; that the improvement is useful, and that the specification is so full and clear, and free from ambiguity, that any mechanic skilled in the art of making propellers could, by following it, construct the thing patented.

But however meritorious the invention may be, yet it is contended that the patent ought to be adjudged void, because it does not point out the difference between the improved propeller and all other propelling-wheels previously essayed.

The object of pointing out the old from the new is, that the public may be informed what the party claims as his invention, and may ascertain if he claims anything in common use.

The law does not require that he should describe the various paddle-wheels then known, or point out the differences between them and his improvement. Such a rule, even if practicable, would be too onerous to be endured. Take, for example, a patent for an improvement upon all stoves previously essayed: it would be unreasonable to prescribe that the specification should describe all the stoves in use, or that had ever been essayed, and that it should point out the difference between them and the particular improvement. Such requirement would be impracticable. When Emerson applied for his patent, in 1834,

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there were a very great number of paddle-wheels and propellers known, or which had been essayed, many of which had been patented in this country and in England. Now, it was not necessary for him to have described all these various wheels and propellers. It is enough if he has specified his own improvement ; and if he has done so in an intelligible form, his patent is good on its face, although, when tested by evidence *dehors* the patent, it might appear that he has claimed what was old, and thus his patent might be defeated.

In *Evans v. Eaton*, 7 Wheat. 435 [4 Am. & Eng. 105], the rule is thus expressed : " We do not say that the party is bound to describe the old machine, but we are of opinion that he ought to describe what his own improvement is, and to limit the patent to such improvement. The law is sufficiently complied with by distinguishing, in full, clear, and exact terms, the nature and extent of his improvement only."

Most of the authorities cited by the counsel for the plaintiffs in error, under his fourth point, are referred to by Phillips, in his work on Patents, and the rule that he deduces from them is thus stated, at page 269 :

" In specifying an improvement in a machine, it is often necessary to describe the whole machine as it operates with the improvement, in order to make the description intelligible, and enable an artist to construct the machine, as the inventor is bound to do in his description, and which if he fails to do he falls into the fault of obscurity. On the other hand, if the whole machine, as well the old as the new part, be thus described, it is requisite to distinguish what part the patentee claims, since, if this does not satisfactorily appear, the patent will, as we have seen, be void for ambiguity ; or, if the obvious construction is that he claims the whole machine in its improved state, the patent will be void by reason of the patentee claiming too much. The mode of expression generally used in the books in relation to this subject is, that the specification must distinguish the old from the new. The only object of this distinction is, however, to specify what the patentee claims ;

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and the mere discrimination of the new from the old would not necessarily show this, for perhaps he does not claim all that is new. When the cases say, therefore, that the specification must distinguish the new from the old, we must understand the meaning to be that it must show distinctly what the patentee claims, the only object of this distinction being for this purpose. This doctrine is illustrated by some of the cases already stated, and it runs through them all wherein this question arises."

Most of the patents describe the improved machine only, as will be seen by referring to the specifications in the Patent Office, and to the reports of patent cases.

It has been, of late years, the practice of the courts of this country to give effect to patents, if possible, rather than to destroy them; and to this end, mere technical objections are no longer encouraged. The rigorous rules of the English courts, and of some of our earlier cases, by which meritorious patents were frequently overturned, have given place to more liberal and enlightened principles.

(The remainder of the argument upon this head is omitted.)

V. The authenticated copy of the corrected drawing, filed in the Patent Office on the 27th of March, 1844, was correctly admitted.

The original drawing filed with the patent, in 1844, had been destroyed by fire. The patentee could not, of course, produce the original, and he therefore resorted to the next best evidence that the nature of the case permitted. This consisted of a copy, which the plaintiff below offered to prove to be an accurate copy of the original; and this copy, so offered, was duly authenticated, in the manner provided by the first and second sections of the act of March 3d, 1837.

Upon the strictest principles of the law of evidence, the plaintiff below was entitled to prove what the original drawing really was. The original being lost, the next best evidence of it was an exact copy, proved to be accurate.

This proof would have been admissible and proper, irre-

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spective of the act of 1837, and whether the copy so offered was a record of the Patent Office or not. Suppose the act of 1837 had never been passed, and the plaintiff had proved the destruction of the original drawing, he might have produced upon the trial a copy of it; and, after proof that it was a true copy, he would have entitled himself to read it in evidence.

But there can be no reasonable doubt that the corrected drawing, filed on the 27th of March, 1844, was properly received by the Patent Office, and that an authenticated copy thereof was admissible as evidence, under the provisions of the act of 1837.

That act was remedial in its character; its object was to restore the records, and to repair the loss occasioned by the fire. To that end, it was of the highest public importance that the specifications and drawings should be correctly and accurately restored. To have received imperfect or inaccurate copies, would have increased, and not have remedied, the mischief; and to assert that the Patent Office had exhausted its power to restore models and drawings by the reception of what were not copies or true representations of the originals, would be to give a construction to the statute that would defeat its object.

The first section declares: "That it shall be the duty of the Commissioner to cause the copies offered by the patentee, or any authenticated copy of the original record, specification, or drawing which he may obtain, to be transcribed," &c. It is not only within the powers of the department to receive corrected drawings or models in place of those that prove to be inaccurate or imperfect, but it is the duty of the Commissioner to obtain exact substitutes for the originals, if possible; and if those already filed are shown to be erroneous, imperfect, or untrue delineations of the originals, it is the duty of the Commissioner to replace them with corrected copies. In this way only can the objects of the act be accomplished. To deny this power would be to perpetuate errors.

VI. The court below properly refused to charge the jury

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that the defendants were not entitled to a verdict, if they were satisfied that no propelling-wheels were made between the 27th of March, 1844, and the commencement of the suit.

The defendants excepted to the charge so far only as it did not adopt the prayer insisted on by them.

The prayer upon this point insists that the defendants were entitled to a verdict, if no wheels were made by them after the 27th of March, 1844, no matter how often they had infringed the plaintiff's patent prior to that date. It assumes that all persons may, with impunity, infringe upon all or any patents intermediate between the destruction by fire of the records of the Patent Office, and the complete restoration of them under the act of 1837. If the principle contended for be sound, then the patentee has no remedy for wilful and deliberate violations of his patent, committed intermediate the destruction of the records of the Patent Office and the complete restoration of them, no matter how public and notorious the patent may have become, and no matter how extensively the patent may have been published and circulated in works of art or otherwise.

This principle cannot be sound, and the defendants' prayer and exception raise no other question. The prayer assumes the broad ground that there is no liability for infringements committed prior to the restoration, not only of the patent itself, but of the drawings, and that the patentee is not entitled even to nominal damages.

The patent, in the present case, had been restored and recorded anew long before the 27th of March, 1844, namely, in the year 1841; the recorded copy of the specification and claim was correct, and disclosed the patentee's right; and yet the court was asked, in effect, to charge the jury that infringements might be perpetrated with impunity at any time after the fire, and at any time after the recording anew of the letters and schedule, until the 27th of March, 1844. The letters patent were published in the Franklin Journal in 1834, were filed anew in 1841, and of themselves

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were sufficient to protect the patentee, even if the restoration of the drawing had been imperfect.

The views of the learned judge in his charge need no illustration ; he charged the jury as favorably for the defendants as they had a right to request.

The complaint of the counsel for the plaintiffs in error, that the court left the question of unreasonable delay, on the part of the patentee, in taking measures to restore his records, to the jury, is not properly urged upon the present writ of error, because—

1. It is not one of the five points that the court below allowed to be raised.

2. That part of the charge was not excepted to at the trial, and, on the contrary, the exception was limited to the point taken in the defendants' prayers.

3. Even if this point were properly before the court, it is clear that the question, whether the patentee had been guilty of unreasonable delay and neglect in restoring the records, was a question of fact upon the evidence then before the court.

It was a question of fact, submitted to the jury for the benefit of the defendants below ; for if there had been such neglect or delay, the court instructed the jury, that, if the defendants had innocently made the patented article, it would be a fair ground for a mitigation of the rule of damages, if not for the withholding them altogether.

The charge was as favorable to the defendants as the law and the evidence would permit.

Mr. John O. Sargent, for the plaintiffs in error, in reply and conclusion.

It is objected to the first point raised by the counsel for the plaintiffs in error, that it is not properly presented to the court, though it is admitted to arise upon the record. The argument is, that the court below intended to restrict the plaintiffs to the consideration of certain specified questions. True it is, that the court struck out from the bill of exception several points on which the plaintiffs relied ; but

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the object of the court in so doing is misapprehended. It was the purpose of the court merely to disembarass and relieve the record of objections which they considered ill-taken, and the discussion of which they deemed unnecessary. That, besides this limitation, of which the plaintiffs have not complained, it was the intention of the court to cut them off from their right of dealing with this record according to law, is not to be presumed or implied. No doubt whatever is entertained by the counsel for the plaintiffs that the objection is well raised on the record, and that it is fatal to the defendant's claim.

I. The point made is, that the defendant in error has no patent for an improved spiral paddle-wheel.

The learned counsel for the defendant is mistaken in supposing that the argument of plaintiffs' counsel proceeds upon the idea that the letters patent and the specification are not parts of the same instrument. The specification forms a part of the patent, and they are to be construed together, but construed with reference to the fundamental principle of interpretation: *quoties in verbis nulla ambiguitas, ibi nulla expositio contra verba flenda est*—or, as it is sometimes laid down in the books, "No construction shall be made contrary to the very express words of a grant."

In construing this instrument, we must look to the situation of the parties, and the mode in which it was prepared. The formal letters patent speak the language of both parties. In the instrument of grant, there is nothing equivocal or ambiguous. It is not capable of being misunderstood. No ingenuity can extort a double meaning from it. Mr. Emerson made oath that he was the inventor of an improvement in the steam-engine; solicited a patent for said improvement; received a patent, reciting the exclusive privileges vested in him in said improvement, and making the description of said improvement contained in the schedule annexed a part of his patent. All this must be taken as absolute truth. The patentee claiming under this instrument is bound by its recitals, and estopped from denying anything that it alleges. The letters patent, in

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fact, are the joint production of the grantor and grantee. The Secretary of State adopted the description of his improvement which the grantee furnished in his petition. The entitling of the schedule is debatable ground. This may have been the work of the grantee alone, or of a clerk in the department. In either event, it indicates the intention of the parties, and, as if to exclude the possibility of the grantee's taking an exclusive privilege to any other thing than that contemplated and expressed in the patent, the heading or title of the schedule recites, in effect, that said schedule is made a part of the patent, so far as it contains a description of the improvement in the steam-engine, and no farther.

The language of the parties indicates plainly enough what was intended to be granted, and what was actually granted. Then comes the descriptive part of the schedule, or the specification, in the words of the grantee alone. This contains a particular description of the improvement in the steam-engine secured by the patent. It then describes an application of this improved engine to turn the capstan on the deck of a vessel; and an improved spiral paddle-wheel, alleged to differ materially from those previously essayed. Now, the ground taken by the counsel who opened this case is simply this—that Mr. Emerson cannot, by the introduction of new matters in his specification, make his patent operate as a grant for the improvement mentioned in his petition, oath, and letters; and also as a patent for other things not mentioned in such petition, oath, and letters. It is respectfully submitted that such is clearly the law.

It is presumed that there is no difficulty in the court's taking judicial notice of anything involved in the construction of a patent, which a judge at *nisi prius* would know without the aid of a jury. If this view is correct, the court will know that an improved steam-engine is not an improved paddle-wheel, and was not at the time this patent was issued. This being so, the improved spiral paddle-wheel is not only not in terms included in this patent, but is, by

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legal implication, as absolutely excluded from the patent as if it were excluded in express terms. In the fair, natural, obvious interpretation of this grant, collecting its meaning from the terms used in it, understood in their plain, ordinary, and popular sense, the improved steam-engine is the subject, and the sole subject, of Mr. Emerson's patent. Apply these principles which, in the language of a learned and eminent judge, furnish a "rule of construction which applies to all instruments," and they establish beyond a question that Mr. Emerson has no grant for an exclusive privilege in a spiral paddle-wheel.

And, first, because the force of the schedule is thus restrained in express terms by the patent, and these terms are the language of both parties. Again, because the language of the schedule is throughout the language of the grantee alone, and binds the grantor only so far as it has been expressly, or by necessary implication, adopted by him. Now, the duty of the Secretary of State, under the act of 1793, was purely ministerial. He took no such judicial cognizance of specifications as is now rigidly exercised by the Commissioner of Patents. The grantee might have included many distinct machines in his schedule, and the Secretary of State was not called upon to notice the fact, did not notice it, and could not have prevented it. The patent was within his control, and the schedule so far as it was made a part of the patent, but not otherwise. He could so far restrict it as to limit its effect to the description of the thing patented, and to that extent he did in fact, in express terms, limit it. Beyond this he had no jurisdiction. The same is true of the Attorney-General. It was his duty merely to see that the patent purported to embrace but one improvement, and that the specification was signed by the patentee, and attested by two witnesses. His duty was then discharged, and he certified to the patent's being conformable to law. Now, is it not against reason, and therefore against law, to say that such a schedule, made by the grantee alone, and not examined by the grantor, is, in any other respect, and to any greater extent, operative

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in conferring exclusive privileges, than it is made so by the mutual assent of the parties, expressed in their common and joint language in the patent itself? Can such recklessness and improvidence in the issue of its grants, as a different construction would establish, be attributed to any government? If the schedule had contained the specification of a spiral paddle-wheel alone, would it have been patented under the terms of this grant? Would the patentee in that case have complied with that provision of the statute of 1793, which required him to "recite" his invention in his petition? Would his oath to the invention of an improved steam-engine then have covered the invention of a spiral paddle-wheel? And if not in that case, why in this? Does the mere fact of describing the improved steam-engine in the schedule, incorporate in this patent an improved paddle-wheel, which would not have been incorporated if the improved steam-engine had been omitted altogether? If such is the construction to be put upon these instruments, the Secretary might as well have issued his letters patent in blank, and suffered individuals to fill them up at their pleasure. The petition, the oath, the description, the grant, the signing by the Secretary and President, the reference to the Attorney-General, were all superfluous. But, say the counsel for the defendant in error, the schedule is a part of the patent; and if the schedule contains a description and claim of a machine, that machine becomes the subject of the exclusive privileges granted by the patent, just as much as if the inventor had petitioned for, sworn to, paid for, and received a patent for the same. This understanding of the matter would have been a very convenient one for a patentee under the law of 1793, because it would have enabled him to include in his letters the inventions of others, without incurring the penalties of perjury, and as many of them as he pleased, at the expense of a single fee. With all deference, but with all confidence, it is repeated, that the schedule is so far a part of the patent as it contains a description of the thing patented, and no farther. It is the description of the improvement patented contained in the

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schedule, which is the specification that forms a part of the patent. It is in this view that the language of the court is to be applied, when they say that the specification is a part of the patent, and that the whole is to be taken together, and construed as one instrument. As a general thing, under the law of 1793, the schedule contained only such a specification. In contemplation of law, it never can contain any other. If it contains anything more, the excess is surplusage. If it does not vacate the patent, it is at least inoperative ;—it cannot enlarge the grant.

On the English cases, there would be no doubt on this point. For the non-conformity between the title in the patent and the description in the specification, the patent would be declared void on two grounds : 1st. For the false suggestion in the petition. 2d. For the claim in the specification of an improvement not within the true meaning and extent of the grant.

Either of these objections would render a patent in England absolutely void : 1st. Because the crown has been deceived. 2d. Because the inaccurate title is calculated to deceive the public.

These consequences flow, not from any special provision in the English patents or statutes, but from principles of the common law applicable to all public grants. These principles apply with equal force to public grants of the United States, unless there is some provision in our patents as issued, or in our statutes on this subject, rendering them inapplicable. It is submitted, with all deference, that no such provision can be found, and that the reasons for sustaining them in their full effect are stronger under the system established by our act of 1793, than under the English system.

(The remainder of the argument upon this head is omitted.)

II. It is again objected, by the counsel for the defendant in error, that there is nothing in the exception to the ruling of the court in regard to the insertion of several claims for distinct and separate machines in the specification.

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The case of the defendant is obviously very much distressed by this point, and his counsel protest strongly that the inventions described exhibit a "mechanical unity," being all a means of propelling vessels. To maintain this proposition, they resort to a very extraordinary mechanical discussion, to show that, by means of the capstan, without regard to the motive power of the engine, they could propel a vessel. If this be so, and the counsel should present their argument to the Commissioner of Patents in the shape of a specification, they might readily obtain a patent for it, if a new and useful invention. They think, if a vessel with Mr. Emerson's machinery on board should be becalmed, without fuel, that, by applying "the motive power" by manning the capstan, motion would thereby be communicated to the propeller. The answer to this is, that no such application is contemplated by the patentee; and to arrive at it, the learned counsel is compelled to sever and destroy his mechanical unity, by leaving the steam-engine useless for the want of fuel.

The question is now, for the first time, distinctly presented to this tribunal, and the doctrine on this subject is to be settled by the judgment of the court in this case. It is a question of no inconsiderable public importance, and it is desirable that it should be adjudicated on plain and substantial grounds. All inventions are supposed to conduce more or less to one common object, to wit, the benefit of the public. This common purpose is probably too remote to sustain the introduction of all manner of inventions into the same patent; but, for all practical purposes, it is precisely as proximate and tenable as the common purpose claimed for the patentee in this case.

It is most humbly submitted, that the doctrine of this court, as suggested in *Evans v. Eaton*, is the true doctrine on this subject: "On the general Patent Law, a doubt might well arise whether improvements on different machines could regularly be comprehended in the same patent, so as to give a right to the exclusive use of the several machines separately, as well as a right to the exclusive

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use of those machines in combination." This language obviously contemplates a case in which the machines patented might be used in combination ; and the whole force of Mr. Justice MARSHALL'S very sound and pregnant suggestion is destroyed the moment the converse of the proposition is established, namely, that when machines are capable of being used in combination, then any number of them may be united in the same patent. The language of the court in the case cited applies only to the case where the machines in question are capable of acting together. Withdraw such cases from the operation of the principle propounded by the court, and there is an end of it. And yet this doctrine, as laid down by the court in that case, is daily acted upon by the Patent Office, under the act of 1836 ; and if it is materially shaken or qualified, the revenues of the department will be very seriously diminished.

The suggestions in *Evans v. Eaton*, on this point, were much considered in *Barrett v. Hall*, [1 Mason, 477,] and it may be said that no cases on record present more masterly expositions of the principles of patent law which they discuss. *Wyeth v. Stone* [1 Story, 273] stands on the extreme verge of sound principle ; but there the two instruments were in fact but part of one and the same machine. The instruments contemplated in that case formed a compound machine for cutting ice. They were, in fact, but parts of one and the same instrument. Two things cannot be readily imagined more absolutely distinct and separate instruments than a steam-engine and a paddle-wheel. A steam-engine is employed to give motion to every manner of machinery. A paddle-wheel may be turned by horse-power, or man-power, or windmill-power, as well as by a steam-engine. Here, the engine is the motive power ; the wheel is the thing moved. The engine might be well employed to move anything else ; the wheel might well be put in action by any other motive power. They are as distinct and separate as cause and effect, and cannot be united in one patent, except upon principles that would entirely nullify the rule of law laid down in *Evans v. Eaton* and *Barrett*

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v. Hall, and admit of the introduction in the same patent of entirely distinct and separate machines.

It is suggested that a different doctrine from that contended for by the plaintiffs prevails in England. We have cited no English authorities on this point. It arises on our own statutes, and is so rested by Mr. Justice MARSHALL.

There is no hardship in the rule contended for. In no other way can the subject-matter of an invention be distinctly brought out, so as to warn the public against undesigned infringements. If several machines can be mixed up in one specification, and several improvements on each, and then patented in the name of one of those machines, it is respectfully, but earnestly, insisted, that the Patent Office cannot fail to become the source of more oppression and outrage than will be long tolerated by a people who are masters of their own institutions. Under such an understanding of the law, letters patent will be regarded by the public as mere charters of iniquity, and the whole system must be swept away. It must be as impracticable to sustain such an institution in the United States as it would be to establish the Inquisition here, or vest in the government those odious prerogatives the abuse of which led to the English statute of monopolies.

It is most humbly submitted, then, that, on the authorities and on the reason of the case, there was error in the charge of his honor the circuit judge, that "the objection that the patent embraces several distinct discoveries is untenable."

III. Counsel for the defendant in error cannot perceive by what course of argument this "patent" can be shown to be too broad upon its face. We are embarrassed somewhat in reasoning upon this case, because it is an anomaly. This is the first attempt on record to sustain a grant of an exclusive privilege by virtue of letters patent which contain no allusion whatever to the alleged subject-matter of the privilege which is set up under them. We repeat, and to this point pray the special attention of the court, that, among the many hundred patent cases that have been ad-

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judicated in this country and in England, not one such case is reported. In discussing analogies, therefore, we must waive for the time the great difference between this and all other cases, arising from the fact that the patent before us contains no grant of an exclusive privilege in a spiral paddle-wheel.

Plaintiffs' counsel do not allege, therefore, that this patent is too broad upon its face. It is as broad upon its face as the law will allow. It is broad enough to cover an improved steam-engine, and no more broad. It is made void by attempting to include more in the specification than is included in the grant, and more in the claim than is shown to be of the patentee's invention. The objection of plaintiffs' counsel is, that the claim is broader than the invention.

The claim is for the entire spiral paddle-wheel, constructed and operating as set forth ; and, more than that, it is for such a machine, "not confined to precise forms or dimensions, but varied as experience or convenience may dictate ; while the principle of action remains unchanged, and similar results are produced by similar means."

Here is a claim for the entire wheel, to be varied as the inventor may see fit to vary it, and for every other wheel operating on the same principle, and producing similar results by similar means. It is a claim, as broad and distinct as language can make it, for the spiral propelling-wheel, and every part of it, and for liberty to vary it in form as the inventor pleases, as long as a similar result, to wit, the propulsion of vessels, is produced by similar means, to wit, by a spiral wheel. The result contemplated is propulsion ; the means or instrument is a spiral wheel, of such form as experience or convenience may induce the inventor to make, without changing the principle of action. Such is the claim ; and if the claim is a valid one, no man can effect the propulsion of a vessel on the principle of action contemplated by a spiral wheel, without invading Mr. Emerson's claim.

But, while such is the claim with which Mr. Emerson

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arms himself, and goes out among men, as Lord Kenyon expressed himself in a similar case, "hanging terrors over the unlearned," when we come to examine the specification of his wheel, we find an implied acknowledgment that it is only an improvement, and merely an implied acknowledgment. He speaks of an "improved spiral paddle-wheel," leaving the unavoidable inference that he has improved the ordinary paddle-wheel by making it spiral, and that the spiral features—or, as he subsequently describes it, his spiral trough—is the only material part of his improvement.

Here is the old defect, that has been decided over and over again to be fatal—the invention of an improvement, and the claim of the whole machine. No ingenuity can withdraw this case from that large class of cases in which the rule we contend for has been laid down with a distinctness that cannot be mistaken, and applied with a wise, uniform, and unrelenting firmness. The courts say that no man shall give that false color to his claim which may enable him to "hang terrors over the unlearned." The case before the court is Jessop's case, where the patent was for the whole watch, and the invention of a particular movement. It is the case presented in *Williams v. Brodie*, where the invention was an improvement on a stove, and the patent for the whole stove. It runs on all-fours with *Cross v. Huntley*, [13 Wend. 385,] where the invention was of an improvement in the washing-machine, and the claim was for the whole machine; where the court did not hesitate, in an action where the patent came up collaterally, to declare it void. It is *Bovill v. Moore*, [1 Am. & Eng. 231,] where the patent for an improvement on a lace-machine was held void, because the claim was for the whole machine, though a considerable part of it had been long in use.

There is no matter of fact to be found, in order to bring out this defect, that the law may be applied to it. It lies on the face of the specification. Jessop, Williams, Cross, and Bovill showed that they had invented improvements, and claimed the entire machines. Emerson suggests that he has invented an improvement, and claims the entire

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machine. Where is the difference? What subtilty can distinguish between these cases? And why should we seek to establish thin, fine, and subtle distinctions, in a case where the policy of the law is so plain, obvious, and honest, and where the great end to be attained is to prevent patentees from "hanging terrors over the unlearned"?

These cases, it may be said, are not binding authorities upon this court. They are not so cited. No weight is claimed for them beyond that which they derive from their intrinsic good sense and sound reason. Their authority, as well-considered decisions, has never been judicially disturbed or questioned. But there is a case of controlling authority, (that of *Evans v. Eaton*,) sustaining the doctrine for which we contend, to its full extent. To this case I shall have occasion again to refer, in considering the fourth head of the argument of the learned counsel for the defendant, to which I now pass.

IV. The fourth point discussed by the learned counsel for the defendant touches the second prayer made to the court below.

Plaintiffs contend that Mr. Emerson's specification does not define with precision the nature and extent of the alleged improvement in the spiral paddle-wheel, but describes the whole machine, and claims the whole as improved, without distinguishing the new from the old. A patent with such a specification cannot be supported. This doctrine rests so firmly on the authoritative decision of this court, that it may well be left to authority. We shall, therefore, merely allude to the obvious reason for it, which is, to limit the exclusive privilege to the actual improvement, and disarm the patentee of the power of "hanging terrors over the unlearned," and practising upon the fears and credulity of the public, by "pretending that his invention is more than what it really is, or different from its ostensible objects." If a patentee can mix up a single undefined improvement in details of the construction and operation of an old machine, and then claim the whole machine constructed and operating in the manner set forth,

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then a patent, instead of being merely the reward of meritorious invention, is a device to encourage litigation, extortion, and fraud. Such a patent shifts its grounds at every trial, changes its color according to the aspect in which it is presented or met, and adapts itself with a fatal elasticity to the length and breadth of the evidence which happens to be applied to it.

(The remainder of the argument upon this head is omitted.)

V. Now, with regard to the drawings. It appears from the record, (p. 10,) that two drawings were filed by Mr. Emerson in the Patent Office, under the act of 1837: one as early as 1841, which was re-filed, with the plaintiff's oath to its correctness, on the 12th of February, 1844, and the other, with the same oath, on the 27th of March, 1844. The second drawing was the one produced and relied on by the plaintiff below as constituting, with the letters patent, that certified copy of the renewed record in the Patent Office which the second section of the act last cited makes the only proof of the alleged patent admissible in any judicial court of the United States.

The learned counsel for the defendant in error suggest, that, after the original drawing was destroyed by fire, the next best evidence of it was an accurate copy of it, offered to be proved such. It is submitted, with great deference, that a drawing of Mr. Emerson's paddle-wheel, filed in March to lay the foundation of a suit in April, was not the next best evidence of the alleged original, for the reason that there was another drawing, previously filed and sworn to, which was something more than next best evidence of the lost original, being made by statute absolutely the only evidence of it that could be received in any judicial court in the United States. It might, indeed, be well contended, that the first-filed drawing did not at all partake of the character of secondary evidence. It became, by force of the statute, to all legal intent, the original drawing. It filled the place of the original drawing on the record, being verified by the same oath, vesting the same rights, con-

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strued in the same way as part of the specification, and conclusive proof of all that it purported to prove, until it should be rebutted. The letters patent and first drawing filed by Mr. Emerson, under the first section of the act of 1837, became, by virtue of the second section, so far as the patentee was concerned, primary evidence. It was open to observation and impeachment to all the rest of the world ; but, by operation of the statute, in connection with well-established principles of law, it was at all events conclusive upon the patentee. The drawing, therefore, filed on the 27th of March, 1844, was not in law the "next best" evidence of Mr. Emerson's original drawing, because there was a prior drawing filed on the 12th of February, which the statute had expressly declared to be the legal original, at least for all purposes of litigation.

(The remainder of the argument upon this head is omitted.)

VI. On the question of damages, counsel for the defendant insist that there was no error in the charge of the learned judge, that "the damages were not necessarily confined to the making of the wheels between March, 1844, when the drawings were restored to the Patent Office, and the bringing of the suit." Such a limitation was prayed below, and, as it was supposed, on well-established principles of law and equity. It is again pressed, with all deference, but with perfect conviction, that the refusal of the prayer was error, for which the judgment under consideration ought to be reversed.

The Patent Act contemplates that everything to be done by an inventor, with respect to his specification and drawings, is to be done before the patent issues. There is no such thing as correcting the record of a specification or drawing by mere substitution of some other specification or drawing. After the patent issues, the patentee cannot, by merely depositing a new drawing, on any plea whatever, make it a part of his patent, or any evidence whatever of his invention, as originally patented, so as to cover cases of alleged infringement prior to such change in the record. There can be only one motive of desiring to add a new

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drawing, and that is, to remedy a defect or insufficiency in the original drawing or specification, or to correct the same. The object of such a change can never be merely to present a more tasteful drawing, or a drawing more agreeable to the eye, or more in conformity to pictorial rules. Other arts than the fine arts induce such an application. The offer to file a new drawing is an admission on the part of the patentee that his new drawing covers something in which the original drawing is defective or insufficient. And, under these circumstances, what does the statute say? That the patentee must surrender his patent, and that a new patent may issue in conformity with his corrected specification, and thereafter operate, for the residue of the original term, on the trial of all actions thereafter commenced for causes subsequently accruing, as though the same had been originally filed in such corrected form before the issuing out of the original patent. And in this case the Commissioner is not bound to grant such reissue, nor can he grant it except in cases where the error has arisen by inadvertency, accident, or mistake, and without any fraudulent or deceptive intention. Similar proceedings may be had in regard to the addition of an improvement. Act of 1836, section 13.

(The remainder of the argument upon this head is omitted.)

It is respectfully submitted, then,—

1. Because the defendant in error has no grant of exclusive privilege in the machine which is the subject-matter of the present controversy.

2. Because he could not in law receive a grant for it, as one of several distinct machines in the same patent.

3. Because, as the author of an improvement, he could not take out a valid patent for the whole machine.

4. Because he has not in his specification distinguished between the old and new parts of his alleged improved machine, but has claimed the whole machine as improved.

5. Because he did not produce in evidence the record of his patent which the law had made such, but another record. And,

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6. Because he has recovered damages for causes of action accruing previously to the alleged correction of his record, and prior to the alleged renewal of it under the act of 1837.

For all these reasons, and for others raised upon the exceptions and record in this cause, presented perhaps too much at length; but not more at length, in the view of counsel, than their public importance may justify,—that the judgment of the Circuit Court in this case ought to be reversed.

Mr. Justice WOODBURY delivered the opinion of the court.

This is a writ of error brought under some peculiarities which are first to be noticed.

It comes here by virtue of the seventeenth section of the general Patent Law of July 4th, 1836. 5 Statutes at Large, 124.

That section grants a writ of error from decisions of actions on patents, as in ordinary cases, and then adds the privilege of it “in all other cases in which the court shall deem it reasonable to allow the same.” This was doubtless intended to reach suits where the amount in dispute was less than \$2,000, on account of the importance of the points sometimes raised, and the convenience of having the decisions on patents uniform, by being finally settled, when doubtful, by one tribunal, such as the Supreme Court.

The judges below, in this case, deemed it reasonable, that only a certain portion of the questions raised at the trial, concerning the validity of the patent, should come here; and the record was made up accordingly.

But the appellants contend for their right to bring here all the questions which arose in the case, and this is a preliminary point to be settled, before going into the merits. The present is believed to be the first writ of the kind which has given occasion for settling the construction of any part of the above provision; and, therefore, without the aid of precedent, after due consideration of the words and design of the statute, we have come to the conclusion, that the position of the plaintiffs in error, in this respect,

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is the correct one, and that when a court below deem it "reasonable" to allow a writ of error at all, under the discretion vested in them by this special provision, it must be on the whole case.

The word "reasonable" applies to the "cases," rather than to any discrimination between the different points in the cases.

It may be very proper for the court below to examine those points separately and with care, and if most of them present questions of common law only, and not of the construction of the Patent Acts, and others present questions under those acts which seem very clearly settled or trifling in their character, not to grant the writ of error at all. It might, then, well be regarded as not "reasonable" for such questions, in a controversy too small in amount to make the writ a matter of right to persons, if standing on an equal footing with other suitors. But we think, from the particular words used rather than otherwise, that the act intended, if the court allowed the writ as "reasonable" at all, it must be for the whole case, or, in other words, must bring up the whole for consideration.

We shall, therefore, proceed to examine all the questions made at the trial, which it is supposed are relied on, and are now before us on the original writ and a *certiorari* issued since.

Looking to the declaration, the action is for a violation of a patent for an "improvement in the steam-engine, and in the mode of propelling therewith either vessels on the water or carriages on the land."

The evidence offered at the trial, was a patent for "a new and useful improvement in the steam-engine," "a description whereof is given, in the words of the said John B. Emerson himself, in the schedule hereto annexed, and is made a part of these presents."

In the schedule annexed is described fully what he says he invented, namely, "certain improvements in the steam-engine, and in the mode of propelling therewith either vessels on the water or carriages on the land."

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The first question arising on this statement, is whether the evidence proves such a patent as is set out in the writ to have been violated by the respondents.

If the patent is to be ascertained from the letters alone, or rather from what is sometimes called their title or heading, without reference to the schedule annexed, the evidence is undoubtedly defective, as the writ speaks of a patent for an "improvement in the steam-engine, and in the mode of propelling" vessels, &c., therewith; while the letters themselves, in their title or heading, speak only of a patent for "a new and useful improvement in the steam-engine." But the schedule annexed and referred to for further description, after "improvement in the steam-engine," adds, "and in the mode of propelling therewith" vessels, &c.

It can hardly be doubted, therefore, that the improvement referred to in the writ and in the letters patent, with the schedule or specification annexed, was in truth one and the same.

Coupling the last two together, they constitute the very thing described in the writ. But whether they can properly be so united here, and the effect of it to remove the difficulty, has been questioned, and must therefore be further examined. We are apt to be misled, in this country, by the laws and forms bearing on this point in England being so different in some respects from what exist here.

There, the patent is first issued, and contains no reference to the specification, except a stipulation that one shall, in the required time, be filed, giving a more minute description of the matter patented. Webster on Patents, 5, 88; Godson on Patents, 6, App. It need not be filed under two to four months, in the discretion of the proper officer. Godson on Patents, 176.

Under these circumstances, it will be seen that the patent, going out alone there, must, in its title or heading, be fuller than here, where it goes out with the minute specification. But even there it may afterward be aided, and its matter be made more clear, by what the specification con-

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tains. They are, says Godson on Patents, 108, "connected together," and "one may be looked at to understand the other." See also [Boulton v. Bull, 1 Am. & Eng. 59] 2 Hen. Bl. 478; [Crossley v. Beverly, 1 Am. & Eng. 437] 1 Webst. Pat. R. 117; [Hornblower v. Boulton, 1 Am. & Eng. 98] 8 D. & E. 95.

There, however, it will not answer to allow the specification, filed separately and long after, to be resorted to for supplying any entire omission in the patent; else something may be thus inserted afterward which had never been previously examined by the proper officers, and which, if it had been submitted to them in the patent and examined, might have prevented the allowance of it, and which the world is not aware of, seeing only the letters patent without the specification, and without any reference whatever to its contents. [Campion v. Benyon] 3 Brod. & Bingh. 5.

The whole facts and law, however, are different here. This patent issued March 8, 1834, and is therefore to be tested by the act of Congress then in force, which passed February 21, 1793. 1 Statutes at Large, 318.

In the third section of that act, it is expressly provided "that every inventor, before he can receive a patent," "shall deliver a written description of his invention," &c.; —thus giving priority, very properly, to the specification rather than the patent.

This change from the English practice existed in the first Patent Law, passed April 10, 1790, (1 Statutes at Large, 109,) and is retained in the last act of Congress on this subject, passed July 4th, 1836. 5 Statutes at Large, 119.

It was wisely introduced, in order that the officers of the government might, at the outset, have before them full means to examine and understand the claim to an invention better, and decide more judiciously whether to grant a patent or not, and might be able to give to the world fuller, more accurate, and early descriptions of it than would be possible under the laws and practice in England.

In this country, then, the specification being required to be prepared and filed before the patent issues, it can well

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be referred to therein *in extenso*, as containing the whole subject-matter of the claim or petition for a patent, and then not only be recorded for information, as the laws both in England and here require, but, beyond what is practicable there, be united and go out with the letters patent themselves, so as to be sure that these last thus contain the substance of what is designed to be regarded as a portion of the petition, and thus exhibit with accuracy all the claim by the inventor.

But before inquiring more particularly into the effect of this change, it may be useful to see if it is a compliance with the laws in respect to a petition which existed when this patent issued, but were altered in terms shortly after.

A petition always was, and still is, required to be presented by an inventor when he asks for a patent, and one is recited in this patent to have been presented here. It was also highly important, in England, that the contents of the petition as to the description of the invention should be full, in order to include the material parts of them in the patent, no specification being so soon filed there, as here, to obtain such description from, or to be treated as a portion of the petition, and the whole of it sent out with the patent, and thus complying with the spirit of the law, and giving fuller and more accurate information as to the invention than any abstract of it could.

In this view, and under such laws and practice here, it will be seen that the contents of the petition, as well as the petition itself, became a very unimportant form, except as construed to adopt the specification, and the contents of the latter to be considered substantially as the contents of the former.

Accordingly, it is not a little curious, that though the act of 1793, which is to govern this case, required, like that of 1790, a petition to be presented, and the patent when issued, as in the English form, to recite the "allegations and suggestions of the petition," (1 Statutes at Large, page 321, section 1, and page 110, section 3,) yet, on careful inquiry at the proper office, so far as its records are restored,

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it appears that, after the first act of 1790 passed, the petitions standing alone seldom contained anything as to the patent beyond a mere title; sometimes fuller, and again very imperfect and general, with no other allegations or suggestions or descriptions whatever, except those in the schedule or specification. The only exception found is the case of *Evans v. Chambers*, 2 Wash. C. C. 125, in a petition filed December 18, 1790.

Though the records of the Patent Office before 1836 were consumed in that year, many have been restored, and one as far back as August 10, 1791, where the petition standing alone speaks of having invented only "an easy method of propelling boats and other vessels through the water by the power of horses and cattle." All the rest is left to the schedule. Other petitions, standing alone, are still more meagre. One, for instance, in 1804, asks a patent only of a "new and useful improvement, being a composition, or tablets to write or draw on;" another, only "a new and useful improvement in the foot-stove;" and another, only "a new and useful improvement for shoemaking;" and so through the great mass of them for nearly half a century. But the specification being filed at the same time, and often on the same paper, it seems to have been regarded, whether specially named in the petition or not, as a part of it, and as giving the particulars desired in it; and hence, to avoid mistakes as to the extent of the inventor's claim, and to comply with the law, by inserting in the patent at least the substance of the petition, the officers inserted, by express reference, the whole descriptive portion of it as contained in the schedule. This may have grown out of the decision of *Evans v. Chambers*, in order to remedy one difficulty there. Cases have been found, as early as 1804, and with great uniformity since, explicitly making the schedule annexed a part of the letters patent. Proofs of this exist, also, in our reports, as early as 1821, in *Grant et al. v. Raymond*, 6 Peters, 222 [4 Am. & Eng. 245]; and one, 1st October, 1825, in *Gray et al. v. James et al.*, Peters' C. C. 394; and 27th December, 1828, *Wilson v. Rousseau*, 4 How. 649 [4 Am. & Eng. 436].

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Indeed, it is the only form of a patent here known at the Patent Office, and the only one given in American treatises on patents. Phillips on Patents, 523. Doubtless this use of the schedule was adopted, because it contained, according to common understanding and practice, matter accompanying the petition as a part of its substance, and all the description of the invention ever desired, either in England or here, in the petition. Hence it is apparent, if the schedule itself was made a part of the patent, and sent out to the world with it, all, and even more, was contained in it than could be in any abstract or digest of a petition, as in the English form.

We regard this mode and usage on this subject, adopted so early here and practised so long, as not proper to be overruled now, to the destruction of every patent, probably, from 1791 to 1836; and this, too, when the spirit of all our system was thus more fully carried out than it could have been in any other way.

As this course, however, sometimes was misunderstood and led to misconstructions, the revising act as to patents, of July 4th, 1836, changed the phraseology of the law in this respect, in order to conform to this long usage and construction under the act of 1793, and required not in terms any abstract of the petition in the patent, but rather "a short description" or title of the invention or discovery, "correctly indicating its nature and design," and "referring to the specification for the particulars thereof, a copy of which shall be annexed to the patent." And it is that—the specification or schedule—which is fully to specify "what the patentee claims as his invention or discovery." Section 5. 5 Statutes at Large, 119.

It was, therefore, from this long construction, in such various ways established or ratified, that, in the present patent, the schedule, or, in other words, the specification, was incorporated expressly and at length into the letters themselves,—not by merely annexing them with a wafer or tape, as is argued, but describing the invention as an "improvement, a description whereof is given, in the words of

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the said John B. Emerson himself, in the schedule hereto annexed, and is made a part of these presents.' Hence, too, wherever this form has been adopted, either before or since the act of 1836, it is as much to be considered with the letters, (*literæ patentēs*,) in construing them, as any paper referred to in a deed or other contract. Most descriptions of lands are to be ascertained only by the other deeds and records expressly specified or referred to for guides; and so of schedules of personal property, annexed to bills of sale. *Foxcroft v. Mallett*, 4 How. 378; 21 Maine, 69; 20 Pick. 122; *Phil. on Patents*, 228; *Earle v. Sawyer*, 4 Mason C. C. 9; *Ex parte Fox*, 1 Ves. & Beames, 67 [1 Am. & Eng. 185]. The schedule, therefore, is in such case to be regarded as a component part of the patent. *Peters' C. C.* 394, and *Davis v. Palmer et al.*, 2 Brockenbrough, 301. The oath of Emerson, too, that he was inventor of the improvement, must thus be considered as extending to all described in the schedule, no less than the title; and this is peculiarly proper, when the specification is his own account of the improvement, and the patent is usually only the account of it by another, an officer of the government. Taking, then, the specification and letters together, as the Patent Office and the inventor have manifestly in this instance intended that they should be, and they include what has long been deemed a part and the substance of the petition; and the patent described in them is quite broad enough to embrace what is alleged in the writ to have been taken out as a patent by the plaintiff, and to have been violated by the defendants. They are almost *ipsissimis verbis*. And when we are called upon to decide the meaning of the patent included in these letters, it seems our duty not only to look for aid to the specification as a specification, which is customary, ([*Whittemore v. Cutter*] 1 Gall. 437; [*Pitts v. Whitman*] 2 Story R. 621; [*Barrett v. Hall*] 1 Mason C. C. 477,) but as a schedule, made here an integral portion of the letters themselves, and going out with them to the world, at first, as a part and parcel of them, and for this purpose united together forever as identical.

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It will thus be seen, that the effect of these changes in our Patent Laws, and the long usage and construction under them, is entirely to remove the objection, that the patent in this case was not as broad as the claim in the writ, and did not comply substantially with the requirements connected with the petition.

From want of full attention to the differences between the English laws and ours, on patents, the views thrown out in some of the early cases in this country do not entirely accord with those now offered. Paine C. C. 441 ; Pennock *et al.* v. Dialogue, 2 Pet. 1 [4 Am. & Eng. 217]. Some other diversity exists at times, in consequence of the act of 1793, and the usages under it in the Patent Office, not being in all respects as the act of 1836. But it is not important, in this case, to go farther into these considerations.

The next objection is, that this description in the letters, thus considered, covers more than one patent, and is, therefore, void.

There seems to have been no good reason at first, unless it be a fiscal one on the part of the government when issuing patents, why more than one in favor of the same inventor should not be embraced in one instrument, like more than one tract of land in one deed, or patent for land. Phillips on Patents, 217.

Each could be set out in separate articles or paragraphs, as different counts for different matters in libels in admiralty or declarations at common law, and the specifications could be made distinct for each, and equally clear.

But, to obtain more revenue, the public officers have generally declined to issue letters for more than one patent described in them. Renouard, 293 ; Phillips on Patents, 218. The courts have been disposed to acquiesce in the practice, as conducive to clearness and certainty ; and if letters issue otherwise, inadvertently, to hold them, as a general rule, null. But it is a well-established exception, that patents may be united, if two or more, included in one set of letters, relate to a like subject, or are in their nature or operation connected together. Phillips on Patents, 218,

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219 ; *Barrett v. Hall*, 1 Mason C. C. 447 ; *Moody v. Fisk*, 2 Mason C. C. 112 ; *Wyeth et al. v. Stone et al.*, 1 Story, 273.

Those here are of that character, being all connected with the use of the improvements in the steam-engine, as applied to propel carriages or vessels, and may therefore be united in one instrument.

Another objection is, that these letters, even when thus connected with the specification, are not sufficiently clear and certain in their description of the inventions.

This involves a question of law only in part, or so far as regards the construction of the written words used. *Reutgen v. Kanowrs et al.*, 1 Wash. C. C. 168 ; *Davis v. Palmer et al.*, 2 Brockenbrough C. C. 303 ; *Wood v. Underhill*, 5 How. 1. The degree of clearness and freedom from ambiguity required in such cases is, by the Patent Act itself of 1793, to be sufficient "to distinguish the same from all other things before known, and to enable any person skilled in the art or science of which it is a branch; or with which it is most nearly connected, to make, compound, and use the same." 1 Statutes at Large, 321. See, also, on this, *Godson on Patents*, 153, 154 ; [*Boulton v. Bull*, 1 Am. & Eng. 59] 2 Hen. Bl. 489 ; *Wood v. Underhill*, 5 How. 1 ; *Davoll et al. v. Brown*, 1 Woodb. & Min. 57 ; *Peters' C. C.* 301 ; *Sullivan v. Redfield*, *Paine C. C.* 441.

There are some further and laudable objects in having exactness to this extent, so as, when the specification is presented, to enable the Commissioner of Patents to judge correctly whether the matter claimed is new or too broad. [*Evans v. Eaton*] 3 Wheat. 454 [4 Am. & Eng. 16] ; [*Campion v. Benyon*, 1 Am. & Eng. 345] 3 Brod. & Bingh. 5 ; [*Lyburn v. Chesney*] 1 Starkie, N. P. 162. So, also, to enable courts, when it is contested afterward before them, to form a like judgment. [*Bacon v. Chesney*] 1 Starkie, N. P. 192. And so that the public, while the term continues, may be able to understand what the patent is, and refrain from its use, unless licensed. *Webster on Patents*, 86 ; [*Harmar v. Playne*, 1 Am. & Eng. 171] 11 East. 105 ; [*Jones v. Jones*] 3 Merivale, 161 ; *Evans v. Eaton*, 3 Wash. C. C.

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453 ; 4 Wash. C. C. 9 ; *Bovill v. Moore*, *Davies' Cases*, 361 [1 Am. & Eng. 231] ; *Lowell v. Lewis*, 1 Mason C. C. 182-189.

In the present instance, yielding to the force of such reasons in favor of a due and rational degree of certainty in describing any improvements claimed as new, there still seems to us, though without the aid of experts and machinists, no difficulty in ascertaining, from the language used here, the new movement intended to be given to the steam-engine, by substituting a continued rotary motion for a crank motion, and the new form of the spiral wheel, when the engine is used in vessels, by changing the form of the paddles and placing them near the ends of the arms ; and the new connection of the power with the capstan of such vessels, by inserting the upper end of the shaft into the capstan. It is obvious, also, that the inventor claims as his improvement not the whole of the engine, nor the whole of the wheel, but both merely in the new and superior form which he particularly sets out. He, therefore, does not claim too much, which might be bad. *Hill v. Thompson et al.*, 2 J. Marsh. 435 [1 Am. & Eng. 285, 293, 299, 304] ; [*Dixon v. Moyer*] 4 Wash. C. C. 68 ; *Godson on Patents*, 189 ; *Kay v. Marshall*, 1 Mylne & Cr. 373 [2 Am. & Eng. 186, 242, 250, 325, 416] ; [*Wyeth v. Stone*] 1 Story R. 273 ; [*Moody v. Fiske*] 2 Mason C. C. 112 ; [*Snowball v. Goodricke*] 4 Barn. & Ald. 541 ; *Bovill v. Moore*, 2 Marsh Com. P. Rep. 211 [1 Am. & Eng. 268].

The novelty in each he describes clearly, as he should ; and it is not necessary he should go further. [*Wyeth v. Stone*] 1 Story R. 286 ; *Webster on Patents*, 86, note ; *McFarlane v. Price*, 1 Starkie, 199 [1 Am. & Eng. 227] ; and *King v. Cutler*, Id. 354 [1 Am. & Eng. 225] ; [*Felton v. Greaves*, 1 Am. & Eng. 416] 3 Car. & Payne, 611 ; [*Moody v. Fiske*] 2 Mason C. C. 112 ; *Kingsby & Pirsson on Patents*, 61 ; *Godson on Patents*, 154 ; *Isaacs v. Cooper et al.*, 4 Wash. C. C. 259.

He need not describe particularly, and disclaim all the old parts. [*Evans v. Eaton*] 7 Wheat. 435 [4 Am. & Eng. 105] ; *Phillips on Patents*, 270, and cases cited.

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And the more especially is that unnecessary, when such disclaimer is manifestly, in substance, the result of his claiming as new only the portions which he does describe specially. All which is required on principle, in order to be exact, and not ambiguous, thus becomes so.

It is to be recollected, likewise, that the models and drawings were a part of this case below, and are proper to be resorted to for clearer information. *Earle v. Sawyer*, 4 Mason C. C. 9. With them and such explanatory testimony as experts and machinists could furnish, the court below were in a condition to understand better all the details, and to decide more correctly on the clearness of the description ; but from all we have seen on the record alone, we do not hesitate to concur in the views on this point as expressed in that court.

In conclusion, on the other objections to the proof, as to the drawings and to the charge below in relation to the effect of them, and to the destruction of them by fire, we likewise approve the directions given to the jury.

The destruction by fire was no fault of the inventor ; and his rights had all become previously perfected. This is too plain to need further illustration. We cannot consent to be over-astute in sustaining objections to patents. [*Robertson v. French*] 4 East. 135 ; *Crosley v. Beverley*, 3 Car. & Payne, 513, 514 [1 Am. & Eng. 409]. The true rule of construction in respect to patents and specifications, and the doings generally of inventors, is to apply to them plain and ordinary principles, as we have endeavored to on this occasion, and not, in this most metaphysical branch of modern law, to yield to subtilities and technicalities, unsuited to the subject, and not in keeping with the liberal spirit of the age, and likely to prove ruinous to a class of the community so inconsiderate and unskilled in business as men of genius and inventors usually are.

Indeed, the English letters patent themselves, now, however different may have been once their form or the practice under them, declare that "they are to be construed" "in the most favorable and beneficial sense, for the best advan-

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tags" of the patentee. Godson on Patents, 24, App. 7; Kingsby & Pirsson on Patents, 35. See, also, on this rule, Grant v. Raymond, 6 Peters, 218 [4 Am. & Eng. 245]; Ames v. Howard, 1 Sumn. 482-485; Wyeth v. Stone, 1 Story R. 273, 287; Blanchard v. Sprague, 2 Story R. 164; [Davis v. Palmer] 2 Brockenbrough C. C. 303; 2 Barn. & Ald. 345 [1 Am. & Eng. 317], in The King v. Wheeler; 4 Howard, 708, in Wilson v. Rousseau *et al.* [4 Am. & Eng. 436]; 1 Crompt. Mees. & Ros. 864, 876 [1 Am. & Eng. 489], in Russell v. Cowley.

The judgment below is

AFFIRMED.

NOTE.—After the delivery of this opinion, the counsel for the plaintiffs in error suggested that other questions were made below, which they desired to be considered, and therefore moved for another *certiorari* to bring them up. This was allowed, and judgment suspended till the next term.

Notes:

1. Act 1819, § 1; Act 1836, § 17; Act 1870, § 55; R. S., § 4921.
And see Wilson v. Sanford, 10 How. 99 [p. 122, *post*].
Brown v. Shannon, 20 How. 55.

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4. McClurg v. Kingsland, 1 How. 202; 4 Am. & Eng. 382.
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6. (Act 1793, § 3); Act 1836, § 5; Act 1861, § 16; Act 1870, §§ 21, 22; R. S., §§ 4883, 4884.

Specification is a part of the letters patent:

Hogg v. Emerson, 11 How. 587 [p. 279, *post*].

O'Reilly v. Morse, 15 How. 62 [p. 483, *post*].

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8. Joinder of inventions in one patent.

Evans v. Eaton, 3 Wheat. 454 ; 4 Am. & Eng. 16.

Hogg v. Emerson, 11 How. 587 [p. 279, *post*].

Bennett v. Fowler, 8 Wall. 445.

Gill v. Wells, 22 Wall. 124.

Bates v. Coe, 98 U. S. 31.

Parks v. Booth, 102 U. S. 96.

10. Sufficient description.

See Evans v. Eaton, 7 Wheat. 356 ; 4 Am. & Eng. 105.

Notes 8 and 12.

11. Patents should be liberally construed.

Corning v. Burden, 15 How. 252.

Turrill v. Railroad Co., 1 Wall. 491.

Rubber Co. v. Goodyear, 9 Wall. 788.

Klein v. Russell, 19 Wall. 433.

Corn Planter Patents, 23 Wall. 181.

Merrill v. Yeomans, 94 U. S. 568.

Patent in suit :

No. . Emerson, J. B. March 8, 1834. Steam Engine.

OTHER SUITS ON SAME PATENT :

Emerson v. Hogg, 1845. 2 Blatch. 1 ; Fish. Pat. Rep. 77.

Notes and Citations.

Hogg v. Emerson, 1850. 11 How. 587 ; 1 Whit. 634 ; Fish. Pat. Rep. 597 [5 Am. & Eng. 279].

Cited :

IN SUPREME COURT OF UNITED STATES :

Hogg v. Emerson, 1850. 11 How. 587 ; Bk. 13, L. ed. 824 [p. 279, *post*].
Le Roy v. Tatham, Dis. opin., 1852. 14 How. 156 ; Bk. 14, L. ed. 367.

IN CIRCUIT COURTS :

King v. Gedney, April, 1856. 1 MacA.'s Pat. Cases, 443.
Forbes v. Barstow Stove Co., November, 1864. 2 Cliff. 379.
Hoffheins v. Brandt, July, 1867. 3 Fish. 218.
Am. Diam. Rock Boring Co. v. Sheldon, November, 1879. 17 Blatch. 303 ; 4 Ban. & Ard. 603.
Tinker v. Wilber Eureka Mower & Reaper M't'g Co., January, 1880. 5 Ban. & Ard. 92 ; 1 Fed. Rep. 138 ; 9 Reporter, 273.
Maxheimer v. Meyer, October, 1881. 9 Fed. Rep. 460 ; 20 O. G. 1162 ; 20 Blatch. 17 ; 12 Reporter, 519.
The Fire Extinguisher Case, July, 1884. 21 Fed. Rep. 40.

IN OPINIONS OF ATTORNEY-GENERAL.

Cushing's Opinion, December, 1856. 8 Atty.-General, 270.

Notes and Citations.

IN DECISIONS OF COMMISSIONER OF PATENTS :

Ex parte Lewis J. Atwood, November, 1869. C. D. 1869, p. 98.

Ex parte Linus Yale, Jr., December, 1869. C. D. 1869, p. 110.

Henry M. Stow, February, 1873. 3 O. G. 322.

Murray & Wuterich, June, 1873. 3 O. G. 659.

Ex parte Hookham, July, 1879. 16 O. G. 545.

Ex parte Bancroft & Thorne, November, 1881. 20 O. G. 1893.

Ex parte Mefford, November, 1883. 25 O. G. 881.

Ex parte Blythe, July, 1884. 30 O. G. 1321.

IN STATE COURTS :

Burke v. Partridge, June, 1878. 58 N. H. Rep. 349 ; 10 Reporter, 310.

IN TEXT-BOOKS :

2 Abb. Pat. Law, 1886, pp. 30, 68, 85, 220, 221, 224, 228, 229, 357, 358.

Curt. on Pats., 4th ed., §§ 110, 221, 262, 271, 272, 333, 343, 499.

Walker on Pats., 1883, p. 129.

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Statement of the case.

**FREDERICK J. AND SAMUEL W. BARNARD AND
HENRY Q. HAWLEY, APPELLANTS, v. JOHN
GIBSON.***

7 How. 650-658. Jan., 1849.

[Bk. 12, L. ed. 857; 1 Whit. 487; Fish. Pat. Rep. 248.]

Appeal. Final decree.

1. Appeal may be prosecuted only from a final decree (p. 83).
2. Where the injunction prayed for in the court below was made perpetual, but there was a reference to a master to ascertain the damages by reason of the infringement, and the bill was not dismissed nor was there a decree for cost, held that the decree was not final, and the appeal was dismissed (p. 84).

[Citations in the opinion of the Court:]

(1) *Forgay v. Conrad*, 6 How. 201, p. 83.

THIS was an appeal from the Circuit Court of the United States for the Northern District of New York.

The question being, whether or not the decree of the Circuit Court was final, the reporter thinks it proper to insert the whole of that decree, together with the statement of facts, as he finds it prepared by Mr. Justice NELSON.

Circuit Court, United States.

JOHN GIBSON	}	In Equity.
v.		
FREDERICK J. BARNARD AND OTHERS.		

I. W. W. Woodworth conveyed to John Gibson the exclusive right to the Woodworth planing-machine in and for the city and county of Albany, with the single exception

* Mr. Chief Justice TANEY did not sit in this cause, being indisposed at the time it was argued.

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of two rights in the town of Watervliet, in said county. With this exception, the whole right of the county was in Gibson.

II. The two machines, the right to use which was thus excepted, consisted, first, of a machine in use at the time in said town by Rousseau and Easton, which had been erected under the first term of the patent, and the right to continue which they claimed during any extension of the grant; and, second, of a machine which Gibson had conveyed to Woodworth, and by him to Rousseau and Easton.

III. Woodworth, on the 19th of May, 1842, agreed with Rousseau and Easton to make an assignment to them by which they would become vested more fully with the right of running the machine in the town of Watervliet, which they claimed under the first term of the patent; and, also, to assign to them the right to use the other machine which had been conveyed to him by Gibson, of even date with this agreement. In consideration of which, Rousseau and Easton paid at the time \$200; and, in case the extension should be obtained, and assignment of the two machines, as above stipulated for, made, they would pay, in addition, \$2,000, in four equal annual instalments.

IV. This agreement, of the 19th of May, 1842, was modified by an indorsement on the same, signed by all parties, 26th April, 1843, in which it was recited that Rousseau and Easton had, on that day, executed and delivered to Woodworth eight promissory notes, of \$250 each, payable at different periods, the last one 1st July, 1846; in consideration thereof, the said Woodworth agreed that, upon payment of said notes as they became due, he would make the assignments stipulated for in the said agreement referred to.

V. On the 12th of August, 1844, Woodworth assigned all his interest in this contract with Rousseau and Easton in respect to the two machines, and all right and title to the use of the same, to J. G. Wilson, by which he took the place of Woodworth.

VI. On the 13th of November, 1844, Gibson renounced and released all right or claim, if any, to these two ma-

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chines, to J. G. Wilson, this having been supposed necessary to enable Wilson to sue Rousseau and Easton for breach of their contract, or for an infringement of the Woodworth patent and extension by the use of the machines in the town of Watervliet, after refusing to fulfil their contract. Gibson claimed no right to the use of the two machines in said town, as he had already passed to Woodworth all the right which he ever had in the same. The release was given for abundant caution, the better to secure to Wilson the right which he had acquired by the assignment from Woodworth.

VII. On the 5th of December, 1845, J. G. Wilson granted to F. J. Barnard & Son a license to construct and use two machines in the town of Watervliet, for which he was to receive \$4,000; but it was then and there agreed that, if the decision of the Supreme Court of the United States, in a case then pending between Wilson and Rousseau and Easton, should be against Wilson, so as to exclude him from the use of the said two machines in the said town, then he was to repay to Barnard & Son \$2,000, paid to him on that day in part satisfaction of the purchase-money; but if the decision should be in favor of Wilson, and Barnard & Son should be put in possession of the right to erect and use the two machines in said town, then they were to pay to Wilson a further sum of \$2,000.

VIII. Upon the foregoing state of facts, and upon the pleadings and proofs in the case, it is quite clear that, down to the time of the grant of Wilson to Barnard & Son, the 5th of December, 1845, Gibson, the complainant, possessed the exclusive right and title to the planing-machine in and for the county of Albany, with the exception of the two rights in the town of Watervliet, namely, the right to use one claimed by Rousseau and Easton under the first grant, and more effectually secured to them by Woodworth, and the one sold and assigned by Gibson to Woodworth, and by him to Rousseau and Easton.

And, further, that Wilson possessed no interest in any right to the use of the planing-machine in the town of

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Watervliet, except in the two so derived from Woodworth by assignment of the 12th of August, 1844, and which had before been sold to Rousseau and Easton, and of which they were in the actual use and enjoyment. Wilson, therefore, could grant his interest, whatever it might be, in these two rights, and nothing more ; and this was all that could pass to Barnard & Son under the grant of the 5th of December, 1845. The terms of that agreement also establish that it was the interest of Wilson in these two rights which he intended to sell, and Barnard & Son to purchase.

IX. The failure of Rousseau and Easton to fulfil their agreement of purchase with Woodworth, the interest in which belonged to Wilson, did not, of itself, operate to annul and cancel the contract. It was a contract partly executed ; \$200 of the purchase-money had been paid, and promissory notes given for the residue. The machines had been erected, and were in operation ; and although a court of equity might have decreed the contract to be delivered up and cancelled upon terms, until then Rousseau and Easton must be deemed in the lawful use and enjoyment of the two rights under the patent. And even assuming the contract to be annulled, and the parties remitted to their original rights, it is clear that Wilson had power to grant but one of the rights in said town of Watervliet, as the other was secured to Rousseau and Easton under the decision of the court in *Wilson v. them*.

An injunction was accordingly issued.

On the 11th of April, 1848, the Circuit Court of the United States for the Northern District of New York was in session at Utica, when the following decree was passed :

“ This cause having been brought on to be heard upon pleadings and proofs, and Mr. Wm. H. Seward having been heard on the part of the plaintiff, and Mr. Marcus T. Reynolds on the part of the defendants, and due deliberation having been had, it is ordered, adjudged, and decreed that the defendants in this cause be, and they are hereby, perpetually enjoined from any further constructing or using,

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in any manner, and from selling or disposing, in any manner, of the two planing-machines mentioned in said bill, as erected by them in the town of Watervliet, in the county of Albany, or either of said machines, which machines are machines for dressing boards and plank, by planing, tonguing, or grooving, or either, or in some separate combination, constructed upon the principle and plan specified and described in the schedule annexed to letters patent issued to Wm. W. Woodworth, administrator of William Woodworth, on the 8th day of July, 1845, which letters were a renewal upon a formal surrender for an imperfect specification of letters patent issued to Wm. Woodworth on the 27th day of December, 1828, and extended on the 16th day of November, 1842, to take effect on the 27th day of December, 1842, and again extended by act of Congress on the 26th day of February, 1845, and from infringing upon or violating the said patent in any way whatsoever.

“And it is further ordered, adjudged, and decreed that it be referred to Julius Rhodes, Esq., of Albany, counsellor at law, as a master *pro hac vice* in this cause, with the usual powers of a master of this court, to ascertain and report the damages which the plaintiff has sustained, arising from the infringement of his rights by the defendants, by the use of the said two machines by them.

“And it is further ordered, that the report of the said master herein may be made, either to this court in term time, or to one of the judges thereof at chambers in vacation; and that either party may, on ten days' notice to the other of time and place, apply, either to this court in term time, or to one of the judges thereof at chambers in vacation, for confirmation of such report.

“And it is further ordered, that either party may, at any time, on ten days' notice of time and place to the other, apply to this court in term time, or to one of the judges thereof in vacation, for further directions in the premises.

“And the question of costs, and all other questions in

Argument of counsel.

this cause, are hereby reserved until the coming in of the said report.

“And the complainant shall either pay to the defendants, or set off against the damages to be awarded, the sum of two thousand dollars, which he offered in his bill to pay them, with interest from the 5th of December, 1845.”

An appeal from this decree brought the case up to this court.

Mr. Seward moved to dismiss the appeal, upon the ground that the decree was not a final one, which motion was opposed by *Mr. Taber*.

Mr. Seward stated the case, and then said that it was admitted that an appeal would not lie, except from a final decree. The only question is, what is the distinction between final and interlocutory decrees. The same principle may be applied which governs the construction of judgments at law; those are final which grant a remedy upon the whole matter, and dismiss a party from the court. But in equity there is some difficulty, owing to the different nature of the relief which is granted. A final decree in equity may be defined to be one which definitively adjudges the whole subject-matter; an interlocutory decree, one which disposes of some parts and reserves others for future decision. 2 Daniell, Ch. Pr., Part 2, pp. 631, 632, 635, 638, 641, London edition of 1840. The present decree is not final, when tested by the principles laid down by Daniell.

1. It expressly reserves the question of costs. They do not depend upon any statute, but upon judicial discretion.

2. It does not determine the amount of damages, but refers the subject to a master to ascertain and report.

3. Even if the master decides, still the decree does not adjudge them to be according to the report.

4. It does not settle any principles upon which damages can be computed, whether they are for one machine or two, &c.

Argument of counsel.

5. It reserves a decision upon the rights of the respective parties. The complainant offered, in his bill, to pay \$2,000; the decree says he shall do so, but does not say whether it is an extinguishment of the claim, or only a set-off.

6. The bill prays that the machines and their produce may be delivered to the plaintiff; but the decree is silent upon this point. The question is reserved. It may be said that a perpetual injunction is decisive of the rights of the parties. But it is only an order, which the court may revoke at any time. It cannot be pleaded in bar. We think the parties are still in court.

7. The decree does not give all the relief which is prayed for in the bill. Whatever is asked and not granted is left undecided, because the bill is not dismissed as to that.

(*Mr. Seward* then commented on [The Palmyra] 10 Wheat. 502; [Chase v. Vasquez] 11 Wheat. 429; [Davis v. Packer] 8 Peters, 318; [Brown v. Swan] 9 Peters, 1; [Young v. Grundy] 6 Cranch, 51; [Young v. Smith] 15 Peters, 287; [McCollum v. Eager] 2 How. 62; [Pepper v. Dunlap] 5 How. 51; [Forgay v. Conrad] 6 How. 203; *Ib.* 208, 209.)

Mr. A. Taber, against the motion.

1. The decree in question is a "final decree," upon a sound construction of the Judiciary Act of 1803, ch. 93, sec.

2. The fundamental purpose of this act was to give an appeal, if required, where the amount in controversy was sufficient, to the end that the substantial rights of parties should not be finally disposed of by Circuit Courts. Not so of the English statutes of limitations, authorities construing which have been cited on the other side. Their leading object was, not to give or take away an appeal, but to restrict, by a short limitation, appeals taken *pendente lite*, allowing a longer one to those taken after the cause was ended. Wherefore, the words "final decree," in these English acts, are justly interpreted to mean one which is a *finis* of the cause, and in our act, one which is a *finis* of

Argument of counsel.

substantial rights of the parties, which, unless immediately appealed from, would take away property from one and give it to another, or work irreparable mischief. [Forgay v. Conrad] 6 How. 202, 203, 206; [Whiting v. Bank of U. S.] 13 Peters, 15; [Ray v. Law] 3 Cranch, 179; 2 Smith's Chan. Prac. 187, 188.

The decree in question would do both. It was intended by the Circuit Court finally to adjudge and determine the patent-rights in controversy. It takes them away from the defendants, and vests them in the complainant; and, by the perpetual injunction it directs, immediately renders worse than valueless—an incumbrance upon the ground—the expensive erections of the defendants for their enjoyment.

For the costs of the cause, no appeal would hereafter lie. [Atty.-General v. Butcher] 4 Russell, Ch. 180; [Canter v. Amer. & Ocean Ins. Co.] 3 Peters, 307, 319; [U. S. v. Brig Malck Adhel] 2 How. 210, 237. The other matters reserved are merely in execution of the decree already passed. Before these matters could have been adjusted, and an appeal prosecuted to effect, our patent-rights would have expired by their own limitation, and nothing remain for the appellate offices of this court but a *post mortem* examination of our rights for the vindication of abstract law.

The perpetual injunction, the main relief prayed, is a final execution,—not the mere extension of a preliminary injunction, which latter has been repeatedly denied in this cause, and is wholly inapplicable to a contest between assignees under the same patent, which is, therefore, no more *prima facie* evidence for one party than the other. [Millar v. Taylor] 4 Burr. 2303, 2400; [Hills v. Universitate Oxon.] 1 Vernon, 120; Id. 275; [Bromley v. Holland] 7 Ves. 1; [Hill v. Thompson] 3 Meriv. 622 [1 Am. & Eng. 299]; [Harmer v. Plane] 14 Ves. 130-132 [1 Am. & Eng. 166]; Drewry on Injunctions, 223, sec. 5, 221, sec. 3, 223, sec. 4; Eden on Injunctions, 207.

2. But if this is not a case for an appeal under the act above cited, it assuredly must be one of "all other cases"

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provided for by the seventeenth section of the Patent Act of 1836, ch. 747. In patent causes, evidently for the reasons above alluded to, there is no limitation of an appeal, except the safe one that "the court shall deem it reasonable to allow the same." If the act means this honorable court, this appeal has been allowed by it, by one of its justices at chambers. If, as is more probable, the Circuit Court was intended, (6 How. 458 and note, and 477,) then Justice NELSON, being a quorum of that court, (Laws of 1837, ch. 801, sec. 3,) acted as such, judicially, in allowing it at chambers. 1 Brock. 380. Or, if error has occurred in the manner of taking this appeal, no statute restriction being in the way, it should be allowed, in furtherance of justice, to be amended now. Laws of 1789, ch. 20, sec. 32; [Roach *v.* Hulings] 16 Peters, 319; 7 Wend. 508. And this, according to the last-cited case, would be properly done by simply denying this motion.

3. If it be replied to the last point, that this is not a case arising under the Patent Law, but under the common law of contracts and assignments, then the Circuit Court never had jurisdiction, the cause being between residents of the same State, and an appeal lies at any time, to reverse its decision already made, and dismiss the cause. [Griffin *v.* Thompson] 2 How. 244; [McDonogh *v.* Millandon] 3 Id. 693; [Jackson *v.* Ashton] 8 Peters, 148; [Gordon *v.* Longest] 16 Id. 97; [Bingham *v.* Cabbot] 3 Dallas, 19.

Mr. Justice M'LEAN delivered the opinion of the court.

This is an appeal from the decree of the Circuit Court for the Northern District of New York.

The parties claim conflicting interests as assignees of Woodworth's patented planing-machine. The cause was submitted to the circuit judge, who decreed that the defendants below be perpetually enjoined from any further constructing or using in any manner the two planing-machines, &c., and the case was referred to a master to ascertain and report the damages which the plaintiff has sustained, arising from the infringement of his rights by the

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defendants by the use of the said two machines. The report of the master to be made in term time, or to one of the judges at chambers in vacation, and, on ten days' notice, either party to move for confirmation of the report, &c. The question of costs was reserved until the coming in of the report, &c.

A motion is made to dismiss this appeal, on the ground that the decree is not final.

No point is better settled in this court, than that an appeal may be prosecuted only from a final decree. The cases are numerous where appeals have been dismissed, because the decree of the Circuit Court was not final. It is supposed there was a departure from this uniform course of decision, at the last term, in the case of *Forgay et al. v. Conrad*, 6 How. 201.

In that case the court says: "The decree not only decides the title to the property in dispute, and annuls the deeds under which the defendants claim, but also directs the property in dispute to be delivered to the complainant, and awards execution. And, according to the last paragraph in the decree, the bill is retained merely for the purpose of adjusting the accounts referred to the master. In all other respects, the whole of the matters brought into controversy by the bill are finally disposed of as to all of the defendants, and the bill as to them is no longer pending before the court." "If these appellants, therefore, must wait until the accounts are reported by the master and confirmed by the court, they will be subjected to irreparable injury."

The decree in that case would have been executed by a sale of the property, and the proceeds distributed among the creditors of the bankrupt, and lost to the appellants, before the minor matters of account referred to the master could be adjusted and acted on by the court. The course of procedure in the Circuit Court was irregular, and the consequent injury to the defendants would have been irreparable. Effect should not be given to its final orders by the Circuit Court, until the matters in controversy shall be

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so adjusted as to make the decree final. Any other course of proceeding will, in many cases, make the remedy by an appeal of no value.

The decree in the case under consideration is not final, within the decisions of this court. The injunction prayed for was made perpetual, but there was a reference to a master to ascertain the damages by reason of the infringement; the bill was not dismissed, nor was there a decree for costs. In several important particulars, this decree falls below the rule of decision in *Forgay v. Conrad*. The execution of the decree in that case would have inflicted on the defendant below an irreparable injury. The bill was dismissed as to the principal matters in controversy, and there was a decree for costs.

It is said that the decree in this case, by enjoining the defendants below from the use of their machines, destroys their value and places the defendants in a remediless condition. That in the course of a few months their right to run the machines will expire, and that no reparation can be obtained for the suspension of a right by the act of the court. It is alleged, too, that many thousands of dollars have been invested in the machinery, which, by such a procedure, becomes useless.

The hardship stated is an unanswerable objection to the operation of the injunction, until all the matters shall be finally adjusted. If the injunction has been inadvertently granted, the Circuit Court has power to suspend it or set it aside, until the report of the master shall be sanctioned. And unless the defendants below are in doubtful circumstances, and cannot give bond to respond in damages for the use of the machines, should the right of the plaintiff be finally established, we suppose that the injunction will be suspended. Such is a correct course of practice, as indicated by the decisions of this court, and that is a rule of decision for the Circuit Court.

The appeal is dismissed.

ORDER. This cause came on to be heard on the transcript

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of the record from the Circuit Court of the United States for the Northern District of New York, and was argued by counsel ; on consideration whereof, and it appearing to the court here that the decree of the court below complained of is not a final decree within the meaning of the act of Congress, it is thereupon now here ordered and decreed by this court, that this cause be, and the same is hereby, dismissed for the want of jurisdiction.

Note:

2. Mandate unacted upon by court below not a final decree from which appeal will lie.

Corning v. Troy Iron & Nail Factory, 15 How. 451

Patent in suit:

No. . Woodworth, W. December 27, 1828. Planing Mill. Reissue No. 71. July 8, 1845.

OTHER SUITS ON SAME PATENT:

- Brooks v. Bicknell, 1843. 3 McL. 250 ; 2 Robb. 118.
Brooks v. Jenkins, 1844. 3 McL. 432 ; Fish. Pat. Rep. 41.
Washburn v. Gould, 1844. 3 Story, 122 ; 2 Robb. 206.
Woodworth v. Sherman, 1844. 3 Story, 171 ; 2 Robb. 257.
Lippincott v. Kelly, 1844. 1 West. L. J. 513.
Wilson v. Rousseau, 1845. 1 Blatch. 3.
Barnard v. Gibson, 1849. 7 How. 650 ; Fish. Pat. Rep. 243.
Woodworth v. Stone, 1845. 3 Story, 749 ; 2 Robb. 296.
Brooks v. Stolley, 1845. 3 McL. 523 ; 2 Robb. 281.
Brooks v. Bicknell, 1845. 4 McL. 70 ; Fish. Pat. Rep. 72.
Brooks v. Bicknell, 1845. 4 McL. 60 ; Fish. Pat. Rep. 65.
Simpson v. Wilson, 1846. 4 How. 709 ; 2 Robb. 469 ; 1 Whit. 424 [4 Am. & Eng. 533].
Smith v. Mercer, 1846. 4 West. L. J. 49 ; 5 Penn. L. J. 529.
Van Hook v. Pendleton, 1846. 1 Blatch. 187 ; Fish. Pat. Rep. 120.
Wilson v. Rousseau, 1846. 4 How. 646 ; 2 Robb. 373 ; 1 Whit. 357 [4 Am. & Eng. 436].
Woodworth v. Hall, 1846. 1 W. & M. 248 ; 2 Robb. 495.
Woodworth v. Hall, 1846. 1 W. & M. 389 ; 2 Robb. 517.
Woodworth v. Weed, 1846. 1 Blatch. 165 ; Fish. Pat. Rep. 108.

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Woodworth v. Wilson, 1846. 4 How. 712; 2 Robb. 473; 1 Whit. 428 [4 Am. & Eng. 542].

Gibson v. Harris, 1846. 1 Blatch. 167; Fish. Pat. Rep. 115.

Gibson v. Betts, 1846. 1 Blatch. 163; Fish. Pat. Rep. 91.

Wilson v. Turner, 1846. 4 How. 712; 2 Robb. 467; 1 Whit. 437 [4 Am. & Eng. 539].

Wilson v. Stolly, 1847. 4 McL. 273; Fish. Pat. Rep. 146.

Woodworth v. Curtis, 1847. 2 W. & M. 524; 2 Robb. 603.

Wilson v. Stolly, 1847. 4 McL. 275; Fish. Pat. Rep. 137.

Woodworth v. Edwards, 1847. 3 W. & M. 120; 2 Robb. 610.

Van Hook v. Pendleton, 1848. 2 Blatch. 85; Fish. Pat. Rep. 205.

Gibson v. Barnard, 1848. 1 Blatch. 388; Fish. Pat. Rep. 238.

Wilson v. Barnum, 1849. 8 How. 258; 1 Whit. 510; Fish. Pat. Rep. 457 [p. 89, *post*].

Wilson v. Barnum, 1849. 2 Fish. 635.

Wilson v. Simpson, 1849. 9 How. 109; Fish. Pat. Rep. 463; 1 Whit. 515 [p. 97, *post*].

Wilson v. Stolly, 1849. 5 McL. 1; Fish. Pat. Rep. 261.

Olcott v. Hawkins, 1849. 2 Am. L. J. 317 (9 Penn. L. J.).

Motte v. Bennett, 1849. 2 Fish. 642.

Wilson v. Sherman, 1850. 1 Blatch. 536; Fish. Pat. Rep. 361.

Woodworth v. Cook, 1850. 2 Blatch. 151; Fish. Pat. Rep. 423.

Gibson v. Van Dresar, 1850. 1 Blatch. 532; Fish. Pat. Rep. 369.

Gibson v. Gifford, 1850. 1 Blatch. 529; Fish. Pat. Rep. 366.

Gibson v. Cook, 1850. 2 Blatch. 144; Fish. Pat. Rep. 415.

Bloomer v. Stolley, 1850. 5 McL. 158; Fish. Pat. Rep. 376.

Brooks v. Norcross, 1851. 2 Fish. 661.

Bicknell v. Todd, 1851. 5 McL. 236; Fish. Pat. Rep. 452.

Ritter v. Serrell, 1852. 2 Blatch. 379.

Sloat v. Patton, 1852. 1 Fish. 154.

Bloomer v. McQuewan, 1852. 14 How. 539; 1 Whit. 730 [p. 434, *post*].

Livingston v. Woodworth, 1853. 15 How. 546; 1 Whit. 922.

Brooks v. Fiske, 1853. 15 How. 212; 1 Whit. 846.

Foss v. Herbert, 1856. 1 Biss. 121; 2 Fish. 31.

Pitts v. Edmonds, 1857. 1 Biss. 168; 2 Fish. 52.

Jenkins v. Greenwald, 1857. 1 Bond. 128; 2 Fish. 37.

Dean v. Mason, 1857. 20 How. 198; 1 Whit. 1048.

Brown v. Shannon, 1857. 20 How. 55; 1 Whit. 1044.

Bloomer v. Gilpin, 1859. 4 Fish. 50.

Bloomer v. Millenger, 1863. 1 Wall. 340; 2 Whit. 42.

Notes and Citations.

Cited :

IN SUPREME COURT OF UNITED STATES :

Humiston v. Stainthorp, 1865. 2 Wall. 106 ; Bk. 17, L. ed. 905.
Grant v. Phoenix Co., 1882. 106 U. S. 429 ; Bk. 27, L. ed. 237.

IN CIRCUIT COURTS :

Whitney v. Mowry, March, 1867. 2 Bond, 45 ; 3 Fish. 157.
Potter v. Mack, September, 1868. 3 Fish. 428.
Reeves v. Keystone Bridge Co., April, 1876. 2 Ban. & Ard. 256 ;
9 O. G. 885.
Rumford Chemical Works v. Hecker, June, 1876. 2 Ban. & Ard.
351.
Brown v. Deere, February, 1881. 2 McC. 425 ; 6 Fed. Rep. 487 ;
19 O. G. 1217.
Hoe v. Boston Daily Advertiser Corp., February, 1883. 14 Fed.
Rep. 914 ; 23 O. G. 1124.

IN TEXT-BOOKS :

2 Abb. Pat. Law, 1886, p. 427.
Walker on Pats., 1883, pp. 439, 477.

Statement of the case.

JACOB P. WILSON, COMPLAINANT, v. DANIEL BARNUM.

8 How. 258-262. Jan., 1850.

[Bk. 12, L. ed. 1070 ; 1 Whit. 510 ; Fish. Pat. Rep. 457.]

Supreme Court jurisdiction on certificate of division on question of infringement.

1. Where on a certificate of division the question was whether or not the patent was infringed by defendant's machine, held that it was a question to the substantial identity of two machines, and was a question of fact over which, in view of Act 1802, ch. 31, § 6, this court has no jurisdiction (p. 93).
2. The jurisdiction of the court under Act 1802, ch. 31, § 6, extends only to points of law (p. 94).

THIS case came up from the Circuit Court of the United States for the Eastern District of Pennsylvania upon a certificate of division in opinion between the judges thereof.

It is not necessary to do more than insert the statement of facts and point of division, as they are found in the record.

Statement of Facts and Point of Division of Judges.

UNITED STATES OF AMERICA, *Eastern District of Pennsylvania.*

At a Circuit Court of the United States, begun and held at the city of Philadelphia, for the Eastern District of Pennsylvania, on the 13th day of November, in the year of our Lord 1849—

Present : The Honorable Robert C. Grier and the Honorable John K. Kane.

Statement of the case.

JACOB P. WILSON v. DANIEL BARNUM.

Statement of Facts.

This was a suit in equity. The bill was filed April 5, 1849, by the plaintiff, as assignee of letters patent issued to William Woodworth. After due notice, a motion was made for a special injunction, which was fully heard before his honor John K. Kane, at a regular Circuit Court, on the 21st, 22d, 23d, 24th, and 25th days of May, A.D. 1849, his honor Judge Grier being absent. The defendant resisted the motion, and filed affidavits on his part, when, after a full hearing of the parties and arguments of counsel, on the 1st day of June, 1849, a special injunction was granted, a copy of which is annexed to this statement. Afterward, on the 4th day of June, 1849, the defendant filed an answer, setting up the fact of his having a patent for his machine, and denying all similarity between it and that of the plaintiff; which same defence had been previously set up by the said affidavits, on the hearing of the motion for an injunction. Afterward, on the 29th day of June, 1849, a motion was made by the defendant to dissolve the injunction, which motion was duly argued on the bill and affidavits on the part of the plaintiff, and on the answer and affidavits on the part of the defendant; and on the 1st day of August, 1849, an order was made in the cause, directing an issue to be tried by a jury, for the purpose of ascertaining whether the machines of the defendant were or were not infringements of the machine of the plaintiff, and ordering the injunction to stand, on the plaintiff giving security to the defendant in the sum of ten thousand dollars, which was done.

The issue came on to be tried by a jury on the 17th day of October, 1849, and after a protracted trial the jury was discharged, not being able to agree.

At this present term of the court, both of the judges being present, a motion was made by the defendant to dissolve the injunction, and arguments of counsel were heard thereon. Thereupon, without any decision being had on

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said motion, and upon an agreement of the parties, with the consent and by the direction of the court, this cause was brought to a final hearing on the pleadings and the proofs which had been taken herein, as well as on the proofs and evidence which were put in on the trial of the issue before the jury, and which last-named proofs and evidence were, for the purpose of said final hearing, considered as proofs in this cause.

The pleadings were a bill, an answer, and a replication, copies of which are hereunto annexed, and a copy of all the proofs and evidence used on said final hearing is also hereunto annexed.

On said final hearing, it appeared and was determined by the court as matter of fact—

1. That letters patent of the United States were issued to William Woodworth on the 27th day of December, 1828, of the tenor and effect mentioned in the bill.

2. That William Woodworth died intestate on the 9th day of February, 1839, in the city of New York, and that William W. Woodworth, his son, and one of his heirs at law, was thereupon duly appointed his administrator by the surrogate of the city and county of New York.

3. That on the 16th day of November, 1842, an extension of the said letters patent for seven years from the 27th day of December, 1842, was duly granted by the United States, under the eighteenth section of the Patent Act of July 4, 1836, to the said William W. Woodworth, as administrator as aforesaid.

4. That by an act of Congress of the United States, passed February 26th, 1845, the said letters patent were further extended to the said William W. Woodworth, as administrator as aforesaid, for seven years from the 29th day of December, 1849.

5. That on the 8th day of July, 1845, the said letters patent were surrendered for a defective specification, and renewed letters patent were thereupon issued on the same day, on an amended specification, to the said William W. Woodworth, as administrator as aforesaid, which renewed

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letters patent were of the tenor and effect set forth in the bill. An authenticated copy of the said renewed letters patent of July 8th, 1845, and of the specification and drawings thereto, and an authenticated copy of the said original letters patent of December 27, 1828, and of the specification and drawings thereto, were produced on the hearing, and may be produced on argument before the Supreme Court of the United States.

6. That the exclusive right of the said renewed letters patent of July 8, 1845, for the district of Southwark, in the county of Philadelphia, and Eastern District of Pennsylvania, was vested in the plaintiff.

7. That the defendant had erected, within the said district of Southwark, and used and operated therein, since the said exclusive right became vested in the plaintiff, and before the filing of the bill, a machine for tonguing and grooving boards and plank, and also a machine for planing boards and plank. The machine for tonguing and grooving boards and plank was constructed as stated in the evidence. (A model thereof was produced on the hearing by the plaintiff, and the machine itself was produced on the hearing by the defendant. The same are certified by the clerk of the court, and may be used on argument before the Supreme Court of the United States.) The machine for planing boards and plank was constructed as shown by a model produced on the hearing by the plaintiff, and by the machine itself on the hearing by the defendant. (The same are certified by the clerk of the court, and may be used on argument before [the] Supreme Court of the United States.)

8. That letters patent were issued to the defendant on the 13th day of March, 1849, which are referred to in, and a copy of which is annexed to, his answer herein.

On the final hearing, the following question occurred, to wit :

Whether, according to the true construction of the Woodworth patent, as amended, the machines made or used by the defendant, at the time of filing the bill, or either of them singly, do or do not infringe the said amended letters patent.

Opinion of the court.

On which question the opinions of the judges were opposed.

Whereupon, on a motion by William H. Seward and St. George Tucker Campbell, plaintiff's counsel, it was ordered that the point on which the disagreement hath happened may, during the term, be stated, under the seal of the court, to the Supreme Court, to be finally decided.

R. C. GRIER.

J. K. KANE.

Mr. Chief Justice TANEY delivered the opinion of the court.

This case comes before the court upon a certificate of division, and has been submitted on printed arguments.

The plaintiff, who claims as assignee of what is generally called the Woodworth patent, filed a bill in equity, praying an injunction against the defendant to restrain him from using a certain machine, in which, as the complainant charged, boards were planed, tongued, and grooved in the same manner as in the Woodworth machine; the machine of the defendant operating in the same way in every respect as the one for which the complainant held the patent.

The defendant, in his answer, denied that his machine was substantially like and upon the plan of the Woodworth machine. Other defences were also taken in the answer; but it is not necessary to notice them, as they do not concern the question certified.

A great mass of testimony was taken on both sides in the Circuit Court, and models and drawings produced of the two machines, all of which have been sent up for the examination and consideration of this court, with the certificate of division.

On the final hearing of the case, the judges of the Circuit Court differed in opinion on the following question: "Whether, according to the true construction of the Woodworth patent, as amended, the machines made or used by the defendant at the time of filing the bill, or either of them

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singly, do or do not infringe the said amended letters patent."

The question thus certified is one of fact, and has been discussed as such in the arguments offered on both sides. It is a question as to the substantial identity of the two machines ; and its decision must depend upon the testimony of witnesses, the examination of the models and drawings, or of the machines themselves, and the application of mechanical principles and combinations, which the court could learn only from the testimony of persons skilled in the science of mechanics.

The jurisdiction of this court to hear and determine a question certified from the Circuit Court is derived altogether from the act of 1802, ch. 31, sec. 6, (2 Statutes at Large, 159,) and that act evidently gives the jurisdiction only in cases where the judges of the Circuit Court differ in opinion on a point of law. The language of the whole provision upon this subject so clearly requires this construction, that it is unnecessary to comment on it. And it would be utterly inconsistent with the well-known and established proceedings of courts of equity, as well as courts of common law, to take out of a case during its progress a single question of fact, and send it here with the evidence upon that point only, for the final decision of this court. In the case before us, a great number of facts must be ascertained and determined from the evidence, before a final opinion could be formed upon the question certified.

Besides, this act of Congress has been in force for nearly half a century, and has been repeatedly acted on in this court ; and it has uniformly received the construction we now give to it. In the multitude of questions which have been certified, this court has never taken jurisdiction of a question of fact ; and in a question of law it requires the precise point to be stated, otherwise the case is remanded without an answer.

The question now certified being one of fact, we have no jurisdiction ; and the case must therefore be remanded to

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the Circuit Court, to be there proceeded in as law and justice may require.

ORDER. This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the Eastern District of Pennsylvania, and on the point or question on which the judges of the said Circuit Court were opposed in opinion, and which was certified to this court for its opinion, agreeably to the act of Congress in such case made and provided, and was argued by counsel. And it appearing to this court, upon an inspection of the said transcript, that no point in the case, within the meaning of the act of Congress, has been certified to this court, the point or question being one of fact, it is thereupon now here ordered and decreed by this court, that this cause be, and the same is hereby, dismissed, and that this cause be, and the same is hereby, remanded to the said Circuit Court, to be proceeded in according to law.

Patent in suit :

No. . Woodworth, W. December 27, 1828. Planing
Mill. Reissue No. 71. July 8, 1845.

OTHER SUITS ON SAME PATENT :

See *Barnard v. Gibson*, 7 How. 650 [p. 74, *ante*].

Cited :

IN SUPREME COURT OF UNITED STATES :

Dennistoun v. Stewart, 1856. 18 How. 565 ; Bk. 15, L. ed. 489.
Silliman v. Bridge Co., 1862. 1 Black. 582 ; Bk. 17, L. ed. 81.
Brobst v. Brobst, 1867. 4 Wall. 2 ; Bk. 18, L. ed. 387.
Weeth v. Mort. Co., 1882. 106 U. S. 605 ; Bk. 27, L. ed. 99.
United States v. Waddell, 1884. 112 U. S. 76 ; Bk. 28, L. ed. 673.

Notes and Citations.

Cal. Paving Co. v. Molitor, 1885. 113 U. S. 609 ; Bk. 28, L. ed. 1106.

IN TEXT-BOOKS :

2 Abb. Pat. Law, 1886, pp. 26, 382, 402, 423.

Walker on Pats., 1883, p. 449.

Statement of the case.

JAMES G. WILSON, APPELLANT, v. ANDREW P. SIMPSON, E. E. SIMPSON, JOSEPH FORSYTH, AND BAGDAD MILLS.

9 How. 109-126. Jan., 1850.

[Bk. 13, L. ed. 66; 1 Whit. 515; Fish. Pat. Rep. 463.]

*Evidence. Inventor's declarations, effect on assignee's title.
Repair.*

1. Inadmissible hearsay evidence (p. 112).
2. Declarations of a patentee that he had never perfected his invention cannot be heard to disparage the title of his assignees without notice of the fraud (p. 113).
3. The elements of a combination may be repaired without reconstruction (p. 114).
4. Where defendants' assignees replaced worn-out cutter knives in a patented planing machine, which they were using, as they had a right to, during its extension, it was held a repair they were entitled to make.

[Citations in the opinion of the Court:]

(1) Simpson v. Wilson, 4 How. 709-711, pp. 114, 116, 117.

(2) Wilson v. Rousseau, 4 How. 649, pp. 114, 117.

THIS was an appeal from the Circuit Court of the United States for Louisiana.

It was a continuation of the case of Simpson *et al.* v. Wilson, reported in 4 Howard, 710 [4 Am. & Eng. 533], where a statement of the case is given, which need not be here repeated. All the documents relating to the patent and transfer of Woodworth's planing-machine are set forth *in extenso* in the case of Wilson v. Rousseau *et al.* 4 Howard, 647 [4 Am. & Eng. 436], *et seq.*

The report of the case in 4 Howard shows that the two following questions were certified to this court, viz.:

"1. Whether, by law, the extension and renewal of the said patent granted to William Woodworth, and obtained by William W. Woodworth, his executor, inured to the

Statement of the case.

benefit of the said defendant to the extent that said defendant was interested in said patent before such renewal and extension.

"2. Whether, by law, the assignment of an exclusive right to the defendant, by the original patentee or those claiming under him, to use said machine, and to vend the same to others for use, within the county of Escambia, in the territory of West Florida, did authorize said defendant to vend elsewhere than in said county of Escambia, to wit, in the city of New Orleans, State of Louisiana, plank, boards, and other materials, products of a machine established and used within the said county of Escambia, in the territory of West Florida."

On the 18th of April, 1846, the decisions of the Supreme Court in these questions were certified to the Circuit Court as follows:

"1. That, by law, the extension and renewal of the said patent granted to William Woodworth, and obtained by William W. Woodworth, his executor, did not inure to the benefit of said defendant to the extent that said defendant was interested in said patent before such renewal and extension. But the law secured to persons in the use of machines at the time the extension takes effect the right to continue the use of the same.

"2. That an assignment of an exclusive right to use a machine, and to vend the same to others for use, within the specified territory, does authorize an assignee to vend elsewhere, out of the said territory, plank, boards, and other materials the product of such machine."

Thereupon, leave was granted by the Circuit Court to the defendant Forsyth to amend his plea, and to the complainant to amend his bill.

And thereupon the complainant amended his bill—

1. By charging that the mutual deed between Woodworth and Strong of the one part, and the assignees of Emmons' patent, (before mentioned,) was procured by the latter by fraud upon Woodworth and Strong, not discovered until the extension of the patent.

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2. That the defendants had put in operation one new machine since the extension of the patent of 1842 took effect, and that they had rebuilt, by the addition of new parts, being substantial parts of Woodworth's invention, the old machines which they had in actual use at the expiration of the first term of the patent, so that they were practically no longer the same machine; and thus that the use of those machines, under the color of machines which had been in actual use at the expiration of that term, was a fraud upon the law.

Issue was joined upon these new matters. Evidence was taken upon them, as well as upon the question of the extent of infringement.

It is not necessary to insert this evidence, because the substance of it is stated in the opinion of the court.

On the 4th of May, 1849, the cause came on to be heard before the Circuit Court, upon the bill, answers, replication, exhibits, and evidence, when the court decreed that the bill should be dismissed.

The complainant appealed to this court.

The cause was argued by *Mr. Seward* and *Mr. Webster*, for the appellant, and by *Mr. Gilpin* and *Mr. Westcott*, for the appellees.

The counsel for the complainant contended—

1. That the mutual deed executed by and between William Woodworth, James Strong, and William Tyack, D. H. Toogood, Daniel Halstead, and Uri Emmons, was procured from the said Woodworth and Strong by fraud, and is therefore void; and that this fraud vitiates and avoids the defendants' title or right to the use of Woodworth's invention.

2. That the defendants' machines are used in fraud of the law, and in violation of the complainant's rights.

In support of the first proposition, it was urged that Woodworth was the inventor of the machine, which was of great value, and that the consideration which was received by Woodworth and Strong in the mutual deed, viz., that of

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receiving an assignment of Emmons' rights, was of no value whatever, because Emmons had no rights to convey ; and that this was an intentional fraud upon Woodworth and Strong, practised by Toogood, Halstead, and Tyack. It was also urged, that the fraud thus established vitiated and avoided the claim of the defendants, because the mutual deed secures no part of the franchises of the extended term to assignees of the first term. Whatever they have is derived only from the proviso in the eighteenth section of the act of July 4, 1836. Those claiming the benefit of the extension must be lawfully possessed of the right at the close of the first term. But they acquire that interest only by virtue of a valid assignment. It must be a lawful title, capable of carrying all the incidental advantages, whether conferred by the deed or conferred by law.

Proposition II. The defendants' machines are used in fraud of the law, and in violation of complainant's rights.

The thing patented means the machine, which is a thing that produces, and is not itself a product. It is proved that a set of knives for surface work will do good work for from sixty days to three months. That a Woodworth machine cannot be operated more than three months, without making the service knives, and the cutters for tonguing and grooving, anew.

In the case of *Wilson v. Rousseau and Easton*, 4 Howard, 646 [4 Am. & Eng. 436], it was held that, under the eighteenth section of the act of 1836, the exclusive right to make, use, and vend the thing patented is vested in the patentee, with a reservation in favor of the assignees or grantees of the right to use the thing patented. That is to say, all assignees or grantees of the right to use the thing patented, who had machines in use at the time of the renewal, are, by this reservation, protected in the continued use of the specific machine or machines, but specially excluded from the right to make.

The reservation is specially limited to the continued use of the thing patented.

Mr. Justice NELSON, in the case referred to, (4 How. 646,) says : " The clause, in terms, seems to limit studiously the

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benefit or reservation, or whatever it may be called, under or from the new grant, to the naked right to use the thing patented ; not an exclusive right even for that, which might denote monopoly, nor any right at all, much less exclusive, to make and vend. That seems to have been guardedly omitted."

There is a broad distinction between the continued use of the invention, and the continued use of the machine patented. The former necessarily carries with it the right to construct, while the latter excludes it. This distinction is clearly drawn by Mr. Justice NELSON in the same case. 4 How. 683. He says: "It may be said that the 'thing patented' means the invention or discovery, as held in *McClurg v. Kingsland*, 1 How. 202 [4 Am. & Eng. 382], and that the right to use the 'thing patented' is what, in terms, is provided for in the clause. That is admitted ; but the words, as used in the connection here found, with the right simply to use the thing patented, (not the exclusive right, which would be a monopoly,) necessarily refer to the patented machine, and not to the invention ; and, indeed, it is in that sense that the expression is to be understood generally throughout the Patent Law, when taken in connection with the right to use, in contradistinction to the right to make and sell." Again : "The 'thing patented' is the invention ; so the machine is the thing patented ; and to use the machine is to use the invention, because it is the thing invented, and in respect to which the exclusive right is secured, as is also held in *McClurg v. Kingsland*. The patented machine is frequently used as equivalent for the 'thing patented,' as well as for the invention or discovery, and, no doubt, when found in connection with the exclusive right to make and vend, always means the right of property in the invention—the monopoly. But when in connection with the simple right to use, the exclusive right to make and vend being in another, the right to use the thing patented necessarily results in a right to use the machine, and nothing more." It is therefore unquestionable, under this ruling of the Supreme Court, that the reservation is strictly

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limited to a right to the continued use of the specific machine or machines legally in use at the time of the renewal.

Let us ascertain with precision what this reservation is. It is not a reservation of the entire right to use the invention, as was ruled in the case of *McClurg v. Kingsland*, for the doctrine on which that case rests was expressly ruled out in the case of *Wilson v. Rousseau and Easton*, and the reservation expressly limited to the continued use of the specific machine or machines in existence at the time of the renewal.

It necessarily results, from this ruling, that the reservation applies only to such inventions as are embodied in tangible, material form. Processes which are only directory, and simply teach how a product or result is to be obtained, do not come within the reservation, because these had no visible material existence ;—such, for instance, as the process of tanning leather by submitting hides to the chemical action of a solution of such substances as contain the tanning principle ; the process of curing India-rubber by mixing it with sulphur, and then subjecting it to the action of artificial heat, by which process this valuable substance is so changed as not to be affected by the changes of temperature, and by which it is also rendered insoluble ; the various processes of bleaching fibrous and textile substances ; the processes of fixing colors on fabrics by the use of what are called mordants, which, by their chemical action on the colors, render them insoluble in water ; daguerreotyping, which consists in preparing the surface of a metal plate, with certain chemical agents, to render it so sensitive to the chemical action of light as to receive the impression of the lights and shadows of any object reflected on its surface ; and a variety of other processes in the useful and fine arts, too numerous to specify, but which present some of the greatest triumphs which modern inductive science has applied to the wants of man.

All these do not come under the reservation of the eighteenth section of the act of 1836, as expounded in the case of *Wilson v. Rousseau and Easton*, because they have no

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tangible, material existence. They are simply mental processes, which direct how and what matters to treat to produce the required results, and when the results are produced there is an end of the thing patented. True, the application of the process may require complex and costly apparatus ; but unless such apparatus, as is sometimes the case, be not in itself the subject-matter of patent, the reservation does not apply, for the thing patented at the time of the renewal has no material existence. It is the thing patented, when existing in a material form at the time of the new grant, to which the reservation applies alone, and not to the invention irrespective of this material existence.

True, the licensee or grantee of the right to use the invention may have invested thousands of dollars in the erection of costly apparatus by which to apply a patented process, such costly apparatus not being the subject-matter of the patent, and the moment the patent is renewed the costly apparatus becomes useless as regards its use under the license, but nevertheless it is not a waste, for the value of the patent to the patentee arises from the fact that it is vendible, and both the invention and the apparatus used in the application of it, being vendible things, can become the subjects of barter and sale.

We have thus shown that the reservation applies only to one class of inventions, namely, such as require the investment of capital in the thing patented ; for there is a broad distinction between the investment of capital in the thing patented, and in apparatus and appliances for the application of the thing patented. For instance, the reservation does not apply nor look to the capital invested in workshops, warehouses, and the preparation of operatives to conduct a patented process. A licensee under the patent for casting iron rolls, which was the thing patented in the case of *McClurg v. Kingsland*, may have expended thousands of dollars in the erection of workshops, in flasks and other moulds for casting chilled rolls under that patent, and in the preparation of operatives for carrying into effect the thing patented, but the moment the first term of the patent

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expires, and it is renewed, he cannot claim the right to the continued use of the invention under the renewed term, because the thing patented perishes or is destroyed by the act of a single use. It consists in so moulding the sand in which the roll is to be cast, as to make the channel through which the molten iron is to be poured into the moulds a tangent to the circle, that, in running in, it may take a whirling or circular motion, and thus, by the law of centrifugal force, throw the heavier or denser particles of iron outward, to form the outer surface of the roll or cylinder, the dross and less pure particles going toward the centre. In this case, the thing patented has no material existence beyond the single use. The moment the effect is produced, the thing patented is at an end ; for the mould, being made of sand, is destroyed by the very act of producing the effect, and must be made over again for another application of the thing patented.

We shall allude again to this particular case in an after-part of the argument.

As the reservation applies only to things patented which have a material, tangible existence, the question arises, in such cases, how long does this reserved right to use continue, or when does it expire ? If it was a reservation to the right of the invention, as contended for by those who cited the case of McClurg v. Kingsland in the argument in the case of Wilson v. Rousseau and Easton, most unquestionably it would be without limit ; but that was overruled by the Supreme Court, because of the broad distinction between the right to the invention, and the right to the continued use of the material machine patented, as we have already shown. Now, then, when does this reserved right to the continued use of the material machine patented cease ? If it was coupled with the right to make, still it would be without limit. But as it was expressly ruled that the right to make is an exclusive right vested in the patentee, as a necessary consequence the reservation must expire with the existence of the material thing patented ; the one, being an entire dependent of the other, must of

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necessity expire with it, as the branch dies with the trunk.

When the thing patented no longer has material existence, there is no longer any reserved right. This brings us to the inquiry, when does the material thing patented cease to exist? The answer to this inquiry must clearly be, and can only be, when it is worn out or destroyed. For when, by any event, the material thing patented no longer exists, it can only be renewed under the authority of the exclusive right to make the thing patented, and therefore the reserved right expires the moment that the material thing patented is worn out or destroyed. This is manifest, and there is no flying from the conclusion.

This brings us to the final and most important branch of the argument. When does the material thing patented cease to exist? To ascertain this, we must first determine what is the thing patented; for we must first know that a thing was, before we can know that it is no more. That the thing patented is the thing invented, we have before shown to be the doctrine of the court in *Wilson v. Rousseau and Easton*.

Woodworth did not invent the frame, the cog-wheels, and shafts, and other elementary parts, which, when put together, constitute what is known as the Woodworth planing-machine. These are the mere appliances,—the mere elements of machinery,—which are as free for every man to use as the air he breathes. Nor did he invent the rollers for making pressure to control the plank, nor the cutting instruments for planing, nor the cutter-beads or stocks to which the cutters are attached. These, too, are public property, and at every man's command, to be freely made and used. As he did not invent any of these, and does not claim them in the letters patent as the thing patented, so the making of them does not come within the exclusive right to make, vested in the administrator by the renewal of the patent; nor does the use of them require the reservation of the statute. What, then, is the thing patented? Why, simply the combination of the cutting instruments or

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planes with the pressure-roller, or an analogous device. The combining or putting these together, to effect the planing of planks, is the thing patented, because it is the thing invented; and in this sense the thing invented is the thing patented. As the making these things separately is not making the thing patented, the act of combining or putting them together, so that they shall be able to effect the planing of planks, is alone the making of the thing patented, the doing which is the exclusive privilege of the patentee.

If, then, as must be obvious, the putting or combining of these elements together in one machine is the making of the thing patented, then the converse of the proposition must also be true, namely, that the moment this combination ceases to exist, so soon the thing patented is extinct, and can only be renewed by the exercise of the right to make. We do not press this to the technical length of asserting that the simple act of disconnecting these elementary parts, such, for instance, as temporarily taking the roller or the cutting instruments out of the machine, destroys the thing patented, for that is merely a temporary act, with the intention to restore. But when any one of these elements is either worn out by use, or otherwise destroyed, then the combination invented—the thing patented—no longer exists, and cannot be restored without the exercise of the right to make. The capital which has been invested—not in the appliances to, but in the thing patented—has performed its office; it has lasted its days and vanished, and with it the reserved right which belonged to it alone. But, it may be said, it is a hardship for the man who invested his capital in the purchase of an entire machine, that he should be deprived of the use of it because one part only has worn out. The question of individual hardship cannot control the settlement of great legal questions. In the language of Mr. Justice NELSON in *Wilson v. Rousseau and Easton*, “We must remember that we are not dealing with the decision of the particular case before us, though that is involved in the inquiry, but with a gen-

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eral system of great practical interest to the country ; and it is the effect of our decision upon the operation of the system that gives to it its chief importance." If the question of pecuniary hardship could have a legitimate influence, it would not be difficult to demonstrate how much greater the hardship is to the patentee, by reason of the reservation under the most limited construction, than on the part of the grantee, by reason of the loss of the remnant of the machine, after the thing patented is worn out. But what becomes of the question of hardship in other cases, where the thing patented has no material existence, as in the case of a chemical process requiring costly apparatus for the application of the process, which is the thing patented ?

Let us take, for illustration, the patent granted to Charles Goodyear, for curing, or, as it is termed, vulcanizing India-rubber by mixing it with sulphur, and then baking it by exposure to heat. The thing patented in this instance is a process, an immaterial thing which has no visible existence. It is simply a rule of procedure. But this rule of procedure can only be applied to produce the desired effect by means of costly machinery for grinding and mixing the India-rubber and sulphur, and moulds and ovens, or boilers, for baking. Many manufacturers have been licensed to work under this patent. By reason of great poverty, occasioned by many years of fruitless experiments in search of this great discovery, he was compelled to grant licenses far below their actual value. Should he obtain a renewal of this patent, as the thing patented is not a machine, and has no material existence, the licensees or grantees will not come under the reservation,—will not the pecuniary loss to them be greater than any that can be sustained by the grantees under the Woodworth patent ? Most assuredly it will ; and yet for these there will be no remedy. They, however, as the grantees under the Woodworth patent, have received more than their reward ; and so it will always be in similar cases, because none but valuable inventions can be renewed, and when the inventions have been of sufficient

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value to authorize the renewal, those who have used them have been remunerated.

But, as we before submitted, the hardship to the licensee or grantee is not a matter that can affect the judicial construction. The inquiry must look to the naked fact, when the material machine or thing patented ceases to exist.

(The counsel then proceeded to illustrate the above principles by other examples.)

The counsel for the defendants made the following points.

I. The Circuit Court, as a court of equity, had no jurisdiction under the acts of Congress, the parties not being citizens of Louisiana, the subject of controversy not arising there, the equitable relief not being applicable there, and the right of the complainant not having been established at law. Act of 1789, sec. 11, 1 Stat. at Large, 78 ; act of 1793, sec. 5, 1 Stat. at Large, 322 ; act of 1800, sec. 3, 2 Stat. at Large, 37 ; act of 1819, sec. 1, 3 Stat. at Large, 481 ; act of 1836, sec. 17, 5 Stat. at Large, 124 ; act of 1839, sec. 11, 5 Stat. at Large, 354.

II. If the Circuit Court possesses the fullest equitable jurisdiction, still the complainant cannot, on the general and well-settled principles which govern the interposition of a court of equity, obtain redress by such a bill ; nor is he entitled to such relief as he asks.

He must establish at law the infringement of his right to the " thing patented," the illegal use thereof by the defendants, and the damages he has sustained thereby. His right in equity is merely to restrain the continued illegal use of the thing patented, when so established.

By what principle or rule, governing a court of equity, can he ask it, in an action such as this, and between these parties, to declare an agreement between other parties, and all rights under it, void ?

What part of the Patent Law entitles the complainant to an account ?

How are damages for the infringement to be obtained by proceedings in equity ? Act of 1836, 5 Stat. at Large, 117,

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123 ; 2 Story's Eq., sec. 794 *et seq.*, sec. 934 ; Dwarris on Statutes, 744 ; Curtis on Patents, 358, 370, 375, 381, and cases cited ; Phillips on Patents, 452 ; Whittemore v. Cutter, 1 Gallison, 429 ; Miller v. Taylor, 4 Burr. 2400 ; Hill v. Thompson, 3 Meriv. 622 ; Bailey v. Taylor, 1 Russ. & Mylne, 74 ; [Saunders v. Smith] 3 Mylne & Craig, 735 ; [Bacon v. Jones] 4 Mylne & Craig, 435 [3 Am. & Eng. 63] ; [Collard v. Allison, *ibid.*] 487 [3 Am. & Eng. 78] ; [Shapley v. Rangeley] 1 Woodb. & Min. 220, 280 ; [Hovey v. Stevens, *ibid.*] 290 ; [Orr v. Merrill, *ibid.*] 376, 435 ; [Pierpont v. Fowle] 2 Woodb. & Min. 28.

III. The complainant has no title on which he can found an action against the defendants. They claim no interest adverse to his. He holds the exclusive right to make, use, and vend the machines in Escambia county, Florida, under the new or extended grant. These machines are not made or used in contravention of that grant ; they are no infringement of "the thing patented" to him ; the defendants have not made, used, or sold the thing patented to him. The act of 1836, sec. 14, (5 Stat. at Large, 123,) establishes his right to sue, and cannot be construed to embrace a machine lawfully made, before his grant accrued. *Wilson v. Rousseau*, 4 How. 681, 682, 684 ; [4 Am. & Eng. 436] *Jacob's Law Dict. Quitclaim, Assignment.*

IV. Nor is the machine used by the defendants proved to be identical with that to which the complainant claims the exclusive right.

They held under the patent of Emmons as much as that of Woodworth ; both patents were identical in many respects ; the testimony is entirely imperfect and insufficient, so far as it describes the exact character or construction of the machines used by the defendants.

Woodworth purchased the right to use Emmons' patent during the existence of his first grant, and held this right when the defendants took their assignment. There is no proof, in this action, to show how far the defendants' machines, though called "Woodworth's," were made under one right or the other. The only "Woodworth machine"

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traced to the possession of the defendants never was used by them.

V. The right of defendants to use Woodworth's planing-machine (whether constructed under Woodworth's patent exclusively, or under that and Emmons' combined) in Escambia county, Florida, was completely vested on the 1st of June, 1836. The assignments were according to law. Act of 1793, sec. 4, 1 Stat. at Large, 322.

The claim of title, as set out in the record, is complete. The agreement of 28th November, 1829, is founded on a full and legal consideration. The attempt to establish its invalidity on the ground of fraud is totally unsustained by any evidence, and at variance with the whole conduct of Woodworth and the character of his proceedings. The assignments subsequent to the agreements are in due form; they were all duly recorded, though this was not required by any act in existence at the time when the title of Forsyth was complete.

But it is altogether immaterial in this suit whether this be so or not. The complainant (Wilson) cannot avail himself of it. The machine is no infringement of his right. It was erected and used under Woodworth's right; it was in being when that terminated. If illegally used, it was and is an infringement of that right,—not of the complainant's; and to Woodworth and his representatives alone belongs the claim for redress.

VI. After the decision of this court, (*Simpson v. Wilson*, 4 How. 711 [4 Am. & Eng. 533],) it is needless to answer the allegations of the bill which charge the act of vending the products of the machine elsewhere than in Escambia county as an infringement. That decision has conclusively affirmed his right to do so.

VII. The right of the defendants, as established by the act of 1836, and confirmed by the Supreme Court, is the right to "continue to use" the "thing patented" to the extent of their interest therein. This is all they have done. They have not exercised, during the renewed term, any other right derived under the assignment; they have not

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made or vended any machine ; they have merely continued to use that which they had in use when the original term expired.

The attempt to sustain the allegations of the bill which charge the defendants with fitting up new machines since the 27th of December, 1842, or so reconstructing the old ones, since that time, as to make them essentially new ones, has totally failed. The evidence produced by the complainant negatives the allegations on both points. In allowing the continued use of the machines in existence on the 27th of December, 1842, this court evidently contemplated such repairs as were required to preserve them. *Wilson v. Rousseau*, 4 How. 707 ; [4 Am. & Eng. 436] *Woodworth v. Curtis*, 2 Woodb. & Minot, 528 ; *Boyd v. Brown*, 3 McLean, 295 ; *Boyd v. McAlpin*, 3 McLean, 427.

Mr. Justice WAYNE delivered the opinion of the court.

In the argument of this case, the counsel for the appellant put his right to the relief sought by his bill upon two points. We will consider them in the order in which they were presented.

The appellant's first point is, that the title and right of the defendants to use the Woodworth invention are taken from them by the fraud and artifice of Emmons, Tyack, Toogood, and Halstead, in procuring from Woodworth and Strong the deed of the 28th of December, 1829. Record, 51, 52.

The fraud alleged in the bill is, that Emmons, having pirated Woodworth's invention, contrived, by misrepresentation, to get a patent for the same, and, in conjunction with Toogood, Halstead, and Tyack, falsely and fraudulently represented to Woodworth, and to Strong, his assignee, that Emmons was the first inventor of the planing-machine for which Woodworth had received the first patent ; and that Woodworth and Strong, regarding it possible that such might be the fact, not suspecting any fraudulent device, and fearing, notwithstanding Woodworth knew the invention to be his own, it might be established

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against him, executed the agreement of the 28th of November, 1829, for which no other consideration was received than Emmons' pirated patent.

The case is before us upon the original bill, and as it was afterward amended, upon answers and replication. The defendants traverse this allegation of fraud, as fully as persons so situated can do, and deny any notice or knowledge about it, when they became the assignees of the invention for a valuable consideration. The complainant, then, must establish his charge by proofs. We think it has not been done.

The proof relied upon is, that, though Emmons received a patent for what he claimed to be his invention, it was subsequently proved to be identical with the principle of Woodworth's machine, and had been pirated from it. That, at the time Emmons applied for a patent, he had not, in any way, carried his machine into such a practical result, either in a model or execution, as to entitle him to letters patent. To this is added the declaration of two witnesses, Harris and Gibson, in a joint deposition,—(one of them we may suppose interested, from not having disavowed it, as his associate Gibson does,)—"that they called upon Emmons in the city of New York, several years since, and shortly previous to his death, for the purpose of obtaining information in relation to an invention of a planing-machine said to have been invented by him while residing at Syracuse. That he then informed them, that in the year 1824, being engaged in the erection of salt-vats at Syracuse, he had contrived a machine by which the plank used for salt-vats could be joined by means of knives upon a revolving cylinder. That he went so far as to satisfy himself that boards and plank might be joined in that way; but the machine was never so far completed as to perform work with it. That he left Syracuse in July, 1824, and thought no more of the subject until after William Woodworth had obtained his patent, when he was employed by Toogood, Tyack, and Halstead to defeat it."

Such is the testimony in this record, in support of the

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charge that the mutual deed of the 28th of November, 1829, was obtained by fraud. It is under that deed that the defendants claim the right to use the Woodworth machines in their possession.

Apart from the insufficiency of such testimony, in combination or separately, to establish the fraud, if we suppose it had been sworn to by Emmons, it would be only hearsay, and not within any exception to the rule rejecting hearsay testimony. It is not so, on account of its being a dying declaration, or one made by Emmons at variance with his interest. Neither can it be brought under the exception, as an admission by one who is a party to a suit with others identified in interest with him; nor as coming from one having any interest in the suit, without being a party to the record with others who are so. And it is not the admission of one interested in the subject-matter of the suit, where the law, in regard to that source of evidence, looks chiefly to the parties in interest, and gives to their admissions the same weight as though they were parties to the record.

In fact, the declaration said to have been made by Emmons is merely hearsay. It cannot be made evidence for any purpose, of itself, or in connection with any other proof in the case not liable to any objection. It can neither aid nor be aided by other evidence.

We have put its exclusion on the ground stated, on account of the relations which the record shows Emmons had with some of the parties, rather than upon the little credit to which such a declaration from him would be entitled, from the difference and opposition between it and such as Emmons must have made when he applied for and obtained letters patent for what he claimed to be his invention.

Let us suppose, however, Emmons to be a competent witness to avoid an instrument obtained by the fraudulent devices of himself and his associates; and that there were independent corroborating proofs in confirmation of his credit in such a case. Still the declaration imputed to him would not, in any way, have disparaged the right or title

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of the assignees, under the deed of the 28th of December, 1829, their right having been acquired without notice of the fraud which the complainant says was practised upon Woodworth and Strong.

The complainant can have no benefit under the first point urged by his counsel.

The second point upon which the counsel rely is, that the defendants, as assignees under the deed, continue to use their machines, in fraud of the law, and in violation of the rights of the complainant. The specifications under the general proposition are, that the defendants have substituted other machines for those used by them, before the expiration of the first term of Woodworth's patent; that they have reconstructed Woodworth's entire combination in the frames of their old machines, or supplied an essential constituent part of it, to continue in use those machines which this court said they had a right to use as assignees, when this case was before it, upon certified points, in the year 1846. 4 How. 709, 711.

There is no proof of either the first or second specification.

But the questions which were argued by counsel,—when repairs destroy identity and encroach upon invention, or when the thing patented ceases to exist, so as to exclude the repair or replacement of any one part of its combination, in connection with the rest of it, not requiring repair, or to be replaced,—are before the court upon the evidence in the record.

We admit, for such is the rule in *Wilson v. Rousseau*, 4 Howard, [4 Am. & Eng. 436,] that when the material of the combination ceases to exist, in whatever way that may occur, the right to renew it depends upon the right to make the invention. If the right to make does not exist, there is no right to rebuild the combination.

But it does not follow, when one of the elements of the combination has become so much worn as to be inoperative, or has been broken, that the machine no longer exists, for restoration to its original use, by the owner who has bought

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its use. When the wearing or injury is partial, then repair is restoration, and not reconstruction.

Illustrations of this will occur to any one, from the frequent repairs of many machines for agricultural purposes. Also from the repair and replacement of broken or worn-out parts of larger and more complex combinations for manufactures.

In either case, repairing partial injuries, whether they occur from accident or from wear and tear, is only refitting a machine for use ; and it is no more than that, though it shall be a replacement of an essential part of a combination. It is the use of the whole of that which a purchaser buys, when the patentee sells to him a machine ; and when he repairs the damages which may be done to it, it is no more than the exercise of that right of care which every one may use to give duration to that which he owns, or has a right to use as a whole.

This foundation of the right to repair and replace, and its application to the point we are considering, will be found in the answers which every one will give to two inquiries.

The right to repair and replace in such a case is either in the patentee, or in him who has bought the machine. Has the patentee a more equitable right to force the disuse of the machine entirely, on account of the inoperativeness of a part of it, than the purchaser has to repair, who has, in the whole of it, a right of use ? And what harm is done to the patentee in the use of his right of invention, when the repair and replacement of a partial injury are confined to the machine which the purchaser has bought ?

Nothing is gained against our conclusion by its being said that the combination is the thing patented, and that when its intended result cannot be produced from the deficiency of a part of it, the invention in the particular machine is extinct. It is not so. Consisting of parts, its action is only suspended by the want of one of them, and its restoration reproduces the same result only, without the machine having been made anew. Of course, when we speak of the right to restore a part of a deficient combi-

Opinion of the court.

nation, we mean the part of one entirely original, and not of any other patented thing which has been introduced into it, to aid its intended performance.

Nor is it meant that the right to replace extends to everything that may be patented. Between repairing and replacing there is a difference.

Form may be given to a piece of any material,—wood, metal, or glass,—so as to produce an original result, or to aid the efficiency of one already known; and that would be the subject for a patent. It would be the right of a purchaser to repair such a thing as that, so as to give to it what was its first shape, if it had been turned from it, or by filing, grinding, or cutting, to keep it up to the performance of its original use. But if, as a whole, it should happen to be broken, so that its parts could not be readjusted, or so much worn out as to be useless, then a purchaser cannot make or replace it by another, but he must buy a new one. The doing of either would be entire reconstruction.

If, however, this same thing is a part of an original combination, essential to its use, then the right to repair and replace recurs. That this is so, may be more satisfactorily shown by the Woodworth planing-machine than any other we know, and particularly by the complaint here made against these defendants.

Woodworth's greatest merit, showing his inventive genius, is the adaptation of a well-known tool to a new form and mechanical action, giving an almost wonderful efficiency to its use, and which, in the hundred efforts which had been made before, had not been accomplished. We mean its cutters for planing, tonguing, and grooving.

The complaint now is, that the defendants, in the use of their old machines, have replaced new cutters for those which were worn out, in fraud of the ruling of this court in its answer to the first point certified when this case was formerly here. *Simpson et al. v. Wilson*, 4 How. 709 [4 Am. & Eng. 533].

This court then said, that the renewal of the patent granted to William Woodworth, to William W. Wood-

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worth, his executor, did not inure to the benefit of the defendants to the extent they were interested in it before the renewal and extension, but that the law saved to persons in the use of the machines at the time the extension took effect the right to continue the use. *Simpson et al. v. Wilson*, 4 How. 711 [4 Am. & Eng. 533].

Wilson and Rousseau's case, in 4 Howard, was very fully considered by this court. There were differences of opinion between the judges, as to the interest which assignees of an invention had in it, under the eighteenth section of the act of 1836, after the expiration of the first term of a patent, when there had been a renewal and extension of it. But it certainly did not occur to either of us, that the language then used by the court, and afterward in *Simpson et al. v. Wilson*, could make any difficulty in its application, or that it was subject to misapprehension.

It does not permit an assignee of the first term of a patent, after its renewal and extension, to make other machines, or to reconstruct it, in gross, upon the frames of machines which the assignee had in use when the renewal and extension of the patent took effect. But it does comprehend and permit the resupply of the effective ultimate tool of the invention, which is liable to be often worn out or to become inoperative for its intended effect, which the inventor contemplated would have to be frequently replaced anew, during the time that the machine, as a whole, might last.

The proof in the case is, that one of Woodworth's machines, properly made, will last in use for several years, but that its cutting-knives will wear out and must be replaced at least every sixty or ninety days.

The right to replace them was a part of the invention transferred to the assignee for the time that he bought it, without which his purchase would have been useless to him, except for sixty or ninety days after a machine had been put in use. It has not been contended, nor can it be, that such can be a limitation of the assignee's right in the use of the invention.

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If, then, the use of the machine depends upon the replacement of the knives, and the assignee could replace them from time to time, as they were needed, during the first term of the patent, though they are an essential and distinct constituent of the principle or combination of the invention, frequently replacing them, according to the intention of the inventor, is not a reconstruction of the invention, but the use only of so much of it as is absolutely necessary to identify the machine with what it was in the beginning of its use, or before that part of it had been worn out.

The right of the assignee to replace the cutter-knives is not because they are of perishable materials, but because the inventor of the machine has so arranged them as a part of its combination, that the machine could not be continued in use without a succession of knives at short intervals. Unless they were replaced, the invention would have been of but little use to the inventor or to others. The other constituent parts of this invention, though liable to be worn out, are not made with reference to any use of them which will require them to be replaced. These, without having a definite duration, are contemplated by the inventor to last so long as the materials of which they are formed can hold together in use in such a combination. No replacement of them at intermediate intervals is meant or is necessary. They may be repaired as the use may require. With such intentions, they are put into the structure. So it is understood by a purchaser, and beyond the duration of them a purchaser of the machine has not a longer use. But if another constituent part of the combination is meant to be only temporary in the use of the whole, and to be frequently replaced, because it will not last as long as the other parts of the combination, its inventor cannot complain, if he sells the use of his machine, that the purchaser uses it in the way the inventor meant it to be used, and in the only way in which the machine can be used.

Such a replacement of temporary parts does not alter the

Notes and Citations.

identity of the machine, but preserves it, though there may not be in it every part of its original material.

Such being the case, and this court having determined that the statute providing for the extension and renewal of patents saves the rights of assignees in the use of the machines which they may have in operation when the extension takes effect, we do not think that the defendants in this case, from having replaced cutter-knives in their machines, have been using them in fraud of the law, or in violation of the rights of the complainant.

We shall, therefore, direct the decree of the court below, dismissing the complainant's bill, to be affirmed.

ORDER. This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the District of Louisiana, and was argued by counsel ; on consideration whereof, it is now here ordered, adjudged, and decreed by this court, that the decree of the said Circuit Court in this cause be, and the same is hereby,
AFFIRMED WITH COSTS.

Notes :

2. See also *Kinsman v. Parkhurst*, 18 How. 289.
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3. "Repairs."

American Cotton Tie Co. v. Simmons, 106 U. S. 89.

Patent in suit :

No. . *Woodworth, W.* December 27, 1828. Planing
Mill. Reissue No. 71. July 8, 1845.

Notes and Citations.

OTHER SUITS ON SAME PATENT :

See *Barnard v. Gibson*, 7 How. 650 [p. 74, *ante*].

Cited :

IN SUPREME COURT OF UNITED STATES :

Cotton Tie Co. v. Simmons, 1882. 106 U. S. 89 ; Bk. 27, L. ed. 79.

IN CIRCUIT COURTS :

Wilson v. Sherman, June, 1850. 1 Blatch. 536 ; Fish. Pat. Rep. 361.

Day v. Union India Rubber Co., August, 1856. 3 Blatch. 488.

Aiken v. Manchester Print Works, May, 1865. 2 Cliff. 435.

Wood v. Mich. Southern R. R., November, 1868. 2 Biss. 62 ;
3 Fish. 464.

Farrington v. Board of Water Com'rs, September, 1870. 4 Fish. 216.

Gottfried v. Conrad Seipp Brewing Co., June, 1881. 10 Biss. 368 ;
8 Fed. Rep. 322.

IN TEXT-BOOKS :

Curt. on Pats., 4th ed., §§ 203, note, 297, 492, 498.

Walker on Pats., 1883, p. 193.

[illegible]

Statement of the case.

JAMES G. WILSON, APPELLANT, v. GEORGE A. SANDFORD AND ROBERT G. MUSGROVE.

10 How. 99-102. Dec., 1850.

[Bk. 13, L. ed. 344 ; 1 Whit. 532 ; Fish. Pat. Rep. 474.]

Jurisdiction. Bill to set aside assignment.

1. Where a bill in equity was brought to set aside an assignment of a patent on the ground of assignees' refusal to comply with the conditions of the contract, held that it was not a case arising under the patent law of the United States, and therefore, the matter in dispute being less than \$2000, was not subject to appeal under Act 1836, § 17 (p. 125).

THIS was an appeal from the Circuit Court of the United States for the District of Louisiana.

The appellant had filed his bill in the court below, setting forth a patent to William Woodworth, dated December 27th, 1828, for a planing-machine ; also an extension, in 1842, of said patent for seven years, granted to William W. Woodworth, administrator of the patentee ; an assignment of all right and interest in said extended patent throughout the United States (except Vermont) to complainant, Wilson ; and a license from Wilson to the defendants to use one machine, upon payment of \$1,400, as follows, viz. : \$250 in cash, and the remainder in nine, twelve, eighteen, and twenty-four months, for which promissory notes were given, dated 23d April, 1845, one for \$150, and four for \$250 each.

The license was made an exhibit in the case, which, after setting forth the consideration of \$1,400, above mentioned, and the promissory notes for part thereof, contained the following provision : " And if said notes, or either of them, be not punctually paid upon the maturity thereof, then all and singular the rights hereby granted are to revert to the

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said Wilson, who shall be reinvested in the same manner as if this license had not been made."

The first two of said notes were not paid when they fell due, payment having been demanded and refused before the filing of the bill. The bill further insisted, that the license was forfeited by the failure to pay the notes, and that the licensor was fully reinvested at law and in equity with all his original rights. That the defendants, nevertheless, were using the machine, and thus were infringing the patent. Prayer for an injunction *pendente lite*, for an account of profits since the forfeiture of the license, for a perpetual injunction, for a reinvestiture of title in complainant, and for other and further relief.

The defendants demurred to the whole bill, and also (saving their demurrer) answered the whole bill. They admitted all the facts alleged; and averred, on their part, that the contract set forth in the bill had been modified and varied by a new contract, which the complainant had broken, and that the respondent, being in the lawful use of a planing-machine at the expiration of the patent, had the right to use such machine without license, and consequently that the notes were without consideration.

There was a general replication, and the cause was heard first on bill and demurrer, and afterward (the demurrer having been overruled) on bill, answer, and replication. Whereupon the bill was dismissed, with costs, and an appeal to this court taken.

The cause was argued by *Mr. Seward*, for the appellant, no counsel appearing for the appellees. As, however, the appeal was dismissed for want of jurisdiction, the argument of *Mr. Seward*, which was wholly upon the merits, is not inserted.

Mr. Chief Justice TANNEY delivered the opinion of the court.

The bill in this case was filed by the appellant against the appellees in the Circuit Court of the United States for the District of Louisiana.

Opinion of the court.

The object of the bill was to set aside a contract made by the appellant with the appellees, by which he had granted them permission to use, or vend to others to be used, one of Woodworth's planing-machines, in the cities of New Orleans and Lafayette; and also to obtain an injunction against the further use of the machine, upon the ground that it was an infringement of his patent-rights. The appellant states that he was the assignee of the monopoly in that district of country, and that the contract which he had made with the appellees had been forfeited by their refusal to comply with its conditions. The license in question was sold for fourteen hundred dollars, a part of which, the bill admits, had been paid. The contract is exhibited with the bill, but it is not necessary, in this opinion, to set out more particularly its provisions.

The appellees demurred to the bill, and at the final hearing the demurrer was sustained, and the bill dismissed. And the case is brought here by an appeal from that decree.

The matter in controversy between the parties arises upon this contract, and it does not appear that the sum in dispute exceeds two thousand dollars. On the contrary, the bill and contract exhibited with it show that it is below that sum. An appeal, therefore, cannot be taken from the decree of the Circuit Court, unless it is authorized by the last clause in the seventeenth section of the act of 1836.

The section referred to, after giving the right to a writ of error or appeal in cases arising under that law, in the same manner and under the same circumstances as provided by law in other cases, adds the following provision: "And in all other cases in which the court shall deem it reasonable to allow the same." The words "in all other cases" evidently refer to the description of cases provided for in that section, and where the matter in dispute is below two thousand dollars. In such suits, no appeal could be allowed but for this provision.

The cases specified in the section in question are, "all actions, suits, controversies on cases arising under any law of the United States, granting or confirming to inventors the

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exclusive right to their inventions or discoveries." The right of appeal to this court is confined to cases of this description, when the sum in dispute is below two thousand dollars. And the peculiar privilege given to this class of cases was intended to secure uniformity of decision in the construction of the act of Congress in relation to patents.

Now, the dispute in this case does not arise under any act of Congress ; nor does the decision depend upon the construction of any law in relation to patents. It arises out of the contract stated in the bill ; and there is no act of Congress providing for or regulating contracts of this kind. The rights of the parties depend altogether upon common-law and equity principles. The object of the bill is to have this contract set aside and declared to be forfeited ; and the prayer is, "that the appellant's reinvestiture of title to the license granted to the appellees, by reason of the forfeiture of the contract, may be sanctioned by the court," and for an injunction. But the injunction he asks for is to be the consequence of the decree of the court sanctioning the forfeiture. He alleges no ground for an injunction unless the contract is set aside. And if the case made in the bill was a fit one for relief in equity, it is very clear that whether the contract ought to be declared forfeited or not, in a court of chancery, depended altogether upon the rules and principles of equity, and in no degree whatever upon any act of Congress concerning patent-rights. And whenever a contract is made in relation to them, which is not provided for and regulated by Congress, the parties, if any dispute arises, stand upon the same ground with other litigants as to the right of appeal ; and the decree of the Circuit Court cannot be revised here, unless the matter in dispute exceeds two thousand dollars.

This appeal, therefore, must be dismissed for want of jurisdiction.

ORDER. This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the District of Louisiana, and was argued by counsel ;

Notes and Citations.

on consideration whereof, it is now here ordered, adjudged, and decreed by this court, that this cause be, and the same is hereby,

DISMISSED FOR WANT OF JURISDICTION.

Note :

1. Contracts, jurisdiction.

Hartell v. Tilghman, 99 U. S. 547.

Albright v. Teas, 106 U. S. 613.

Act 1819, § 1 ; Act 1836, § 17 ; Act 1870, § 55 ; R. S., § 4921.

And see Hogg v. Emerson, 6 How. 437 [p. 1 *ante*].

Brown v. Shannon, 20 How. 55.

Patent in Suit :

No. . Woodworth, W. December 27, 1828. Planing
Mill. Reissue No. 71. July 8, 1845.

OTHER SUITS ON SAME PATENT :

See Barnard v. Gibson, 7 How. 650 [p. 74, *ante*].

Cited :

IN SUPREME COURT OF UNITED STATES :

Bloomer v. McQuewan, 1852. 14 How. 539 ; Bk. 14, L. ed. 532
[p. 434, *post*].

Hartell v. Tilghman, 1879. 99 U. S. 547 ; Bk. 25, L. ed. 357.

Albright v. Teas, 1883. 106 U. S., 613 ; Bk. 27, L. ed. 295.

Notes and Citations.

IN CIRCUIT COURTS :

- Pulte v. Derby*, 1852. 5 McLean, 328.
Goodyear v. Union Rubber Co., June, 1857. 4 Blatch. 63.
Blanchard v. Sprague, June, 1859. 1 Cliff. 288.
Merserole v. Union Paper Collar Co., March, 1869. 6 Blatch. 356 ;
3 Fish. 483.
Consol. Fruit Jar Co. v. Whitney, March, 1875. 2 Ban. & Ard. 30.
Magic Ruffle Co. v. Elm City Co., October, 1875. 13 Blatch. 151 ;
2 Ban. & Ard. 152 ; 8 O. G. 773.
Tilghman v. Hartell & Letchworth, April, 1876. 11 Phila. R. 500.
Dowell v. Griswold, November, 1877. 5 Sawy. 39.
Seymour v. Phillips & Colby Co., June, 1877. 7 Biss. 460.
White v. Lee, July, 1880. 5 Ban. & Ard. 572 ; 3 Fed. Rep. 222.
Smith v. Standard Laundry Machinery Co., February, 1882. 20
Blatch. 360 ; 19 Fed. Rep. 825 ; 22 O. G. 587.
Teas v. Albright, August, 1882. 13 Fed. Rep. 406 ; 22 O. G. 2069.
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IN TEXT-BOOKS :

- 2 Abb. Pat. Law, 1886, p. 128.
Walker on Pats., 1883, p. 281.
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Statement of the case.

JAMES STIMPSON, PLAINTIFF IN ERROR, v. THE BALTIMORE AND SUSQUEHANNA RAILROAD COMPANY.

10 How. 329-347. Dec., 1850.

[Bk. 13, L. ed. 441; 1 Whit. 535; Fish. Pat. Rep. 479.]

Particular reissue construed. Infringement. Appeal on agreed statement of fact.

1. Reissue granted J. Stimpson September 26, 1835 (original August 23, 1831), Curves for Railroads, construed to be a claim for a combination of old elements, and held not infringed by a combination of some of its elements with another element substantially different in form (p. 151).
2. The Supreme Court has jurisdiction to re-examine the judgment of a Circuit Court rendered upon an agreed statement of fact. The practice of appeal upon such agreed statement approved (p. 152).

[Citations in the opinion of the Court :]

- (1) Prouty v. Ruggles, 16 Peters, 341, p. 152.
- (2) Carver v. Hyde, 16 Peters, 518, p. 152.
- (3) U. S. v. Eliason, 16 Peters, 291, p. 154.
- (4) Blackstone's Com. 377, p. 153.
- (5) Stephen on Pleading, 92, and note, p. 154.

ERROR to the Circuit Court of the United States for the District of Maryland.

The plaintiff in error brought an action in the court below, for an alleged infringement of his patent-right by the defendant in error.

The cause was not tried by a jury, but was submitted to the court upon the statement of facts hereinafter inserted. Judgment for the defendant, upon which the plaintiff sued out this writ of error.

Statement of Facts.

It is agreed that the privilege of the invention set forth or referred to in the declaration was intended to be secured

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to the plaintiff by letters patent, dated the 23d August, 1831 ; that said patent, for defectiveness of specification, was surrendered, and another instead thereof issued on the 26th September, 1835 ; and that this last was, for like reason, surrendered, and another issued in place of it, bearing date the 27th day of August, A.D. 1840 ; and that said patent-right was duly extended for the term of seven years from the 23d day of August, A.D. 1845, the period of the expiration of the term of said original letters patent. The invention is described in the specification in the words following, to wit :

Specification.

“ The schedule referred to in these letters patent, and making part of the same.

“ To all whom it may concern : Be it known, that I, James Stimpson, of the city of Baltimore, in the State of Maryland, have invented a new and useful improvement in the mode of forming and using cast or wrought iron plates or rails for railroad carriage-wheels to run upon, more especially for those to be used on the streets of cities, on wharves, and elsewhere ; and I do hereby declare that the following is a full and exact description of my said inventions or improvements :

“ For the purpose of carrying railroads through the streets of towns or cities, and in other situations where circumstances may render it desirable that the wheels of ordinary carriages should not be subjected to injury or obstruction, I so construct or form the rails, that the flanches of the wheels of railroad cars or carriages may be received and run within narrow grooves or channels, formed in or by said rails, said grooves not being sufficiently wide to admit the rims of the wheels of gigs or other ordinary carriages having wheels of the narrowest kind. These plates or rails may be varied in form, according to circumstances.

“ In the accompanying drawing, figure 1 represents a railroad track, supposed to be formed in a street, a part of it being shown as straight and a part as curved. The other

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figures give sectional views of various forms in which I make my railway bars or plates, which are usually of cast-iron, and are laid down and secured upon rails of wood. Figure 2 is a section of the form of cast-iron rail plate which I most commonly use where the track is slightly curved; and figure 3, a plate nearly the same with figure 2, which I use where the track is nearly or quite straight. In these plates I make a groove or channel, as at *a*, which is to receive the flanch of the wheel. This channel should be about an inch and a half wide at the top, and about an inch and a quarter at bottom; it is sufficiently deep to admit the

FOR DRAWINGS IN THIS CASE

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weight. They should be about two inches and a quarter deep, six inches and a half wide at the bottom, and about six inches and a quarter at the top; the taper at their sides, when thus formed, aiding in confining them in place by the wedging of the stones and earth of the pavement against them; they may be cast three or four feet in length; their ends should be bevelled, say at an angle of forty-five degrees; or they may be formed with a tenon and mortise. They have spike-holes through them, in order to fasten them down to the rails of wood or of stone upon which they are placed.

"Figure 3 is the same with figure 2, excepting that it has a slight chamfer or rounding off of the angle of the face, as shown at *e*, to admit the cone or curve on the tread of the wheel where it joins the flanch to run free, so that the general tread of the wheel may bear on the face *c* of the plate, which face I prefer to make a little crowning.

"Where the road is perfectly straight, as at *A*, on the

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track, this chamfered edge plate is to be preferred ; but where it is slightly curved, as at B, on the track, I use on the outside of the curve the rails shown in figure 2, which are not chamfered, as the conical or larger part of the tread of the wheel close to the flanch will then bear upon the edge *e*, and this being larger than the tread, will cause the wheels to roll around such curved parts of the road with little or no slipping.

“ Where it is necessary to turn a curve of shorter radius than that which could be readily effected by the aid of the conical part of the wheel, as at C, on the track, I then resort to the plan, secured to me by letters patent, for ‘ turning short curves on railroads,’ which letters patent bear the same date, having been granted on the same day with the letters patent of which this instrument makes a part, for railroad plates to be used on the streets of cities, &c. ; that is to say, I apply ‘ the flanches of the wheels on one side of the railroad carriages, and the tread of the wheels on the other side, to turn curves on railways.’ In this case, a railroad plate may be made, like that shown in figure 4, to form the channel for the wheel on the larger or outer curve. In this case, the groove or channel is not to be equal in depth to the rise or projection of the flanch, so that the flanch alone bears on the rail on this outer side, and takes the whole weight of the load, thus freeing the tread of the wheel on that side from the face of the plate, for the distance necessary to turn the curve ; for a full exemplification of which plan, I refer to said letters patent for ‘ turning short curves.’ Such curves, however, will rarely, if ever, occur, excepting in the turning of the corners of streets ; and to this particular mode I make no claim in the present patent. When the wheels arrive at the straight part of the track, after having run upon a curved part, the rails shown in figure 3 are used, or others of a like nature.

“ It is to be understood that the object had in view in varying the form of the rails by chamfering, as in figure 3, or by omitting the chamfer, as in figure 2, is to attain the same end, namely, the running with little friction or drag-

Statement of the case.

ging around curves in the streets, which is attained in the ordinary railroad tracks out of cities by allowing the cars to vibrate from side to side, so that the varying diameter on the conical parts of the treads of the wheels may cause them to adapt themselves to curvatures on the road. The narrow channel used by me, and so essential in cities, does not admit of this lateral vibration, but, by the devices above described, a similar result is attained.

“In most cases for passing along streets, and more especially when the iron rails are imbedded in rails or sills of stone, I prefer so to construct the said iron rails as that the wheels shall run altogether on the flanches. In this case, I use iron plates, such as are represented in figure 4. These plates may be made two inches and three-quarters wide at top, and three inches at the bottom ; the channel or groove may be about five-eighths of an inch in depth, and an inch and a quarter wide at the top, and an inch at the bottom ; the corners, at the bottom of the groove, being curved as in figures 2 and 3. The thickness below the bottom of the groove or channel may be three-fourths of an inch ; the plates would then be one inch and three-eighths in depth. These shallow-channelled plates present several advantages, among which are, that they will offer less resistance than others to the motion of the cars ; they are much lighter than others ; they will not require any cleaning out, the flanches effecting this perfectly, which may not always be the case in deeper channels. These shallow channels may be made narrower than the deeper ones, the flanches being much thinner at their outer edges than they are near to the treads of the wheels. The wheels will, undoubtedly, be as safely guided in the shallow as in the deeper channels, and the rails will be equally durable with those of greater weight. When rails of this description are sunk into a channel in a rail of stone or wood, the base being wider than their upper sides, the pressure of sand into the seams on each side of the iron, caused by the running of common carriage-wheels over them, will effectually confine the iron plates between the jambs of the stone or wood. Figure 6

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shows a rail plate resembling figure 4, but having a channel the whole depth of the flanch.

“ Should it be preferred to use the ordinary wrought-iron rails, they may be laid double, at such a distance apart as to form the proper channel for the flanch between them ; *ff*, figure 5, are sections of two such iron plates, and are shown as used at D on the track. Wrought plates may also be formed in the manner represented in figure 7. This plate is rolled so as to have a channel, *a*, in it, which may be one inch and a quarter wide at top, one inch at bottom, and five-eighths of an inch deep. The plate, *g g*, on each side of the channel, may be two inches wide ; the whole plate may be of uniform thickness, and furnished with spike-holes alternately on each side of the channels ; these are supposed to be used at E on the track. Where it is necessary to cross a water-gutter in the street, I use a cast-iron plate or plates to cross said gutter, the flanch channels being in such plate or plates. The whole surface between the channels is cast rough, to prevent the slipping of the feet of horses. The aforesaid cast-iron plate is best cast in one piece, as it will be stronger than if divided ; although of the same thickness, it must, of course, be of a width sufficient for the particular gutter to which it is to be applied, and it should be strengthened by having ribs cast on its lower sides ; these should be about an inch and a quarter deep, exclusive of the thickness of the plate. In some cases I cover the gutters the whole width of the street with such cast-iron plates, and extend them to some distance beyond the curbings. I thus make a great improvement in streets for the ordinary purposes of travel. Such a plate is shown in figure 8, *a a* being the grooved channels cast therein, and *h h* the upper face of the plate, cast rough or checkered.

“ Having thus fully described the nature of my improvements, and pointed out various modes in which the same may be carried into effect, what I claim as constituting my invention, and desire to secure by letters patent, is the employment of plates or rails, either of cast or of wrought

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iron, constructed and operating upon the principle or in the manner herein described ; having narrow grooves on each side of the track for the flanches of car-wheels to run in, by which they are adapted to the unobstructed passing over them of the various kinds of common carriages, and to the running of the wheels on slight curves without dragging. I also claim, in combination with such grooved rails or tracks, the employment of plates of cast-iron for the covering and crossing of gutters, such plates being constructed as described, and having the necessary flanch channels cast in them. And I do hereby declare that I do not intend to confine myself to the precise forms and dimensions herein given, these being designed merely to exemplify, in a clear manner, the nature, object, and mode of carrying into effect of my said invention.

“ JAMES STIMPSON.

“ Witnesses : J. M. STIMPSON, S. E. STIMPSON.

“ Whereas, upon the petition of James Stimpson for an extension of the within patent, granted to the said Stimpson on the 25th day of August, 1831, the Board of Commissioners, under the eighteenth section of act of Congress approved the 4th day of July, 1836, entitled ‘ An act to promote the progress of the useful arts, and to repeal all acts and parts of acts heretofore made for that purpose,’ did, on the 21st day of August, 1845, certify that said patent ought to be extended : Now, therefore, I, Edmund Burke, Commissioner of Patents, by virtue of the power vested in me by the said eighteenth section, do renew and extend said patent, and certify that the same is hereby extended for the term of seven years from and after the expiration of the first term, viz., the 23d day of August, 1845, which certificate of the said Board of Commissioners, together with this certificate of the Commissioner of Patents, having been duly entered of record in the Patent Office, the said patent now has the same effect in law as though the same had been originally granted for the term of twenty-one years.

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"In testimony whereof, I have caused the seal of the Patent Office to be hereunto affixed, this 21st day of August, 1845.

[L.S.] "EDMUND BURKE, *Commissioner of Patents.*"

It is admitted that, for the invention of the plaintiff referred to in the above-mentioned specification as being for "turning short corners," a patent, dated 23d August, 1831, duly issued to him, which, for defect in specification, was surrendered; and that another, in place of it, issued to him, dated the 26th of September, 1835, and that said patent was duly extended for the term of seven years from the 23d of August, 1845, when the term of said original patent ended.

It is admitted that the invention for "turning short corners," as described in the specification in the patent of the 26th of September, 1835, was as follows, to wit:

Specification.

"The schedule referred to in these letters patent, and making part of the same, containing a description, in the words of the said James Stimpson himself, of his improvement in the mode of turning short curves on railroads, for which letters patent were granted, dated the 23d day of August, 1831, which letters patent are hereby cancelled on account of a defective specification.

"To all to whom these presents shall come: Be it known, that I, James Stimpson, of the city and county of Baltimore, and State of Maryland, have invented a new and useful improvement in the mode of turning short curves upon railroads with railroad carriages, particularly those round the corners of streets, wharves, &c., and that the following is a full and exact description of said invention or improvement, as invented or improved by me, viz.:

"I use or apply the common peripheries of the flanches of the wheels for the aforesaid purpose in the following manner:

"I lay a flat rail, which, however, may be grooved, if

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preferred, at the commencement of the curvature, and in a position to be centrally under the flanches of the wheels upon the outer track of the circle, so that no other part of the wheels which run upon the outer circle of the track rails shall touch or bear upon the rails but the peripheries of the flanches, they bearing the whole weight of the load and carriage, while the opposite wheels, which run upon the inner track of the circle, are to be run and bear upon their treads in the usual way, and their flanches run freely in a groove or channel, which treads are ordinarily about three inches in diameter less than the peripheries of the flanches. Were the bearing surfaces of the wheels which are in contact with the rails while thus turning the curve to be connected by straight lines from every point, there would thus be formed the frustums of two cones, if there be four wheels and two axles to the carriage, or if but one axle and two wheels, then but one cone, which frustums, or the wheels representing their extremities, will, if the wheels are thirty inches in diameter, and are coupled about three feet six inches apart, turn a curve of about sixty feet radius of the inner track rail. The difference in diameter between the flanches and treads being as before stated, and the tracks of the usual width, the wheels coupled as stated would turn a curve of a somewhat smaller radius if the axles were not confined to the carriage and in a parallel position with each other; but this being generally deemed necessary, the wheels run upon lines of tangents, and those upon the inner track, being as wide apart in the coupling as the outer ones, keep constantly inclining the carriage outward, and thus cause the carriage to tend to run upon a larger circle than the difference in diameter of the treads and flanches would otherwise give; but the depth of the flanches and couplings may be so varied as to turn any other radius of a circle desired. What I claim as my invention or improvement is the application of the flanches of the wheels on one side of railroad carriages, and of the treads of the wheels on the other side, to turn curves upon railways, particularly such as turning the corners of streets,

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wharves, &c., in cities and elsewhere, operating upon the principle herein set forth.

“ JAMES STIMPSON.

“ Witnesses : JAMES H. STIMPSON, GEORGE C. PENNIMAN.

“ Whereas, upon the petition of James Stimpson for an extension of the within patent, granted to the said Stimpson on the 23d day of August, 1831, the Board of Commissioners, under the eighteenth section of act of Congress approved the 4th day of July, 1836, entitled ‘ An act to promote the progress of the useful arts, and to repeal all acts and parts of acts heretofore made for that purpose,’ did, on the 21st day of August, 1845, certify that said patent ought to be extended :

“ Now, therefore, I, Edmund Burke, Commissioner of Patents, by virtue of the power vested in me by said eighteenth section, do renew and extend said patent, and certify that the same is hereby extended for the term of seven years from and after the expiration of the first term, namely, the 23d day of August, 1845, which certificate of the said Board of Commissioners, together with this certificate of the Commissioner of Patents, having been duly entered of record in the Patent Office, the said patent now has the same effect in law as though the same had been originally granted for the term of twenty-one years.

“ In testimony whereof, I have caused the seal of the Patent Office to be hereunto affixed, this 21st day of August, 1845.

[L. S.] “ EDMUND BURKE, *Commissioner of Patents.*”

It is further admitted, that before and since the period of said extension of the first above-mentioned patent, the defendant, a corporation created by the General Assembly of Maryland for the business of, and engaged in, the transportation of passengers and goods by railways belonging to it, did, upon its railway, and as part thereof, in the city of Baltimore, and at the corner of two streets to be turned in

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the course of said transportation, construct, and has ever since kept up and used, a curve furnished and fitted as follows, to wit: On the inner side of the curve is placed a double iron rail cast in one piece, with the interval between large enough to allow the admission of the flanch of the wheel, the rail on the outer side being the usual one throughout the curve, without difference of any kind, except that it is curved; and it is admitted that the passage of the cars around the curve is throughout, and always has been, upon the treads of the wheels; and these rails were intended and used for the purpose of enabling the cars to turn the curves of the streets above mentioned.

Upon this statement of facts, it is submitted to the court to determine whether the defendant, under a just construction of said patent declared upon, has been guilty of any violation thereof. And it is agreed, that if the court shall, in the premises, be of opinion in favor of the plaintiff, judgment shall thereupon be rendered for the plaintiff, for the damages laid in the declaration; to be released on payment of such sum as shall be found for actual damages by a jury, to be impanelled by consent for that purpose, subject to be increased by the court, according to the act of Congress in such case made and provided.

The court to render an absolute judgment for the defendant if of opinion in the premises with the defendant; and either party having the right to sue out a writ of error from the judgment of the court.

It is further agreed, that the railway above mentioned used by the defendant is not sunk into the ground, so as to make the top of the rail on a level with the surface, but projects above the surface the height of the rail; and that the court shall have the power to draw all inferences from the facts herein stated which could be drawn by a jury.

CHARLES F. MAYER, *Plaintiff's Attorney.*

J. M. CAMPBELL, *Defendant's Attorney.*

The case was argued by *Mr. Mayer*, for the plaintiff in error, and by *Mr. Campbell*, for the defendant in error.

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Mr. Mayer.

By referring to the defendant's brief, it is perceived that the right of this court to take cognizance of this cause is disputed. It is true, that the determination of the suit in the court below was upon a statement of facts, and under an agreement that the court might draw inferences from the facts as a jury might. The statement was for the purpose of bringing to the attention of the court what the invention of the plaintiff was, and in order that they might compare the contrivance of the defendant with it. The very agreement provides a reserved right of review. The mere circumstance, then, that the court were to draw inferences from the facts as a jury might do, does not make the judgment below irreversibly final, and nullify the agreement for assuring to either party the benefit of an appellate review.

But if the court should be of opinion that by the agreement they cannot consider the case, they will not, therefore, affirm the judgment below by dismissing it, but will send it back as in a case of mistrial.

The case of *Prentice v. Zane*, 8 Howard, 470, was disposed of in a manner not meeting the unanimous approbation of this court; and it will not be followed if, even by discrimination, any distinction can be taken between this or any other case and that. But that was the case of a special verdict, in which the jury found, not the facts, but the *testimony*, and the counsel, not willing to hazard the mistakes of another blundering jury, submitted the case upon that testimony and the few facts which were found; and this court thought that it would convert them into a jury to require them to find the facts from testimony presented to them. But if the court below could not, within its powers, find facts, this court will not presume that it did so; but, on the contrary, that it did not do so. A court does, however, in a metaphysical sense, in every case make inferences from facts; and it directs a jury to infer from facts. But here there is no room for inference. The facts are all agreed.

But is it true, as is assumed by the other side, that the

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court can in no case deal inferentially with facts? There is such a thing as a demurrer to evidence, which assumes all the facts asserted on the other side to be true, and the court infers from those facts as a jury would do. The facts are all admitted by the demurrer, and the court deals with those facts. An appellate court does the same. The facts must, however, be admitted; for there can be no such thing as a demurrer to evidence where the testimony is contradictory. [Thornton v. Bank of Washington] 3 Pet. 36, 96; [Pawling v. U. S.] 4 Cranch, 219; [Young v. Clark] 7 Cranch, 565; [Bank of U. S. v. Smith] 11 Wheat. 171, 320. Now, in the last case the court decided that it was not a proper case for demurrer. The question referred to the court was not one of law, but of fact; that is, the *facts* were not admitted from which the court were to make proper inferences, but they were to deduce from the *testimony* what the facts were. It is not, then, strictly true that, in the demarkation of the line that separates the court and jury, it is not the province of the court to deal with facts inferentially. And why do you adopt the analogy to a special verdict rather than to a demurrer to evidence, when you come to assign a place to a "case stated," in the technical vocabulary? The court must look to the facts to determine whether the invention in the one case is the invention in the other case; but that is not finding facts. It is mere construction, which the judicial mind is always employed in making.

As to the merits. Has the defendant infringed our patent? Now, what is the principle of our invention, not as gathered from a single expression judged by a meagre and carping criticism, but as taken from the whole context? The courts say that you are to look at the thing to be done, the object to be accomplished, and then to the agency by which it is accomplished. [Ames v. Howard] 1 Sumner, 482. The operative principle of our patent is the *groove*, by which the cars are kept in place, and it makes no difference whether you run them upon the flanch or upon the tread. Now, the defendant claims to have con-

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structed a railway by the laying of two pieces of rail with an interval between them, which answers to our groove. And reliance is placed upon the using of one rail only for a groove, the other rail being flat. This, however, only gives the defendant a less beneficial use of our invention. It is but a mere colorable variance from the arrangements of the invention, whilst the principle, the characteristic merit, is adopted, whether on one or both sides of the railway, and whether the wheel shall move on the flanch or the tread. The case from 3 Wash. C. C. R. applies with force, where you take part of an invention, or accomplish less than the patentee proposes.

Mr. Mayer cited [*Moody v. Fiske*] 2 Mason, 115 ; [*Bovill v. Moore*] 4 Eng. Com. Law Rep. 357 [1 Am. & Eng. 224, 231, 268] ; [*Brunton v. Hawkes*] 6 Eng. Com. Law-Rep. 512 [1 Am. & Eng. 327, 336] (4 B. and A. 550) ; [*Dixon v. Moyer*] 4 Wash. C. C. R. 68 ; [*Treadwell v. Bladen, ibid.*] 703 ; [*Davis v. Palmer*] 2 Brock. 298.

Mr. Campbell, contra.

The first question is, whether this court can exercise jurisdiction in this case. Can this court go out of its province as a court of law, and deal with other than questions of law ? The court below had the power to find other facts by inference than those stated ; and can this court, in the absence of any statement by the court below as to such further facts, determine what additional facts, if any, were or were not before the Circuit Court ? The counsel on the other side says that the court can examine questions of fact, and draw inferences from facts, and that it has been done in case of demurrers to evidence. The case of *Prentice v. Zane* may stand, however, with the previous decisions. In demurrers to evidence, the only question is one of law upon the facts admitted. And Judge Buller long ago decided that there was no difference in principle between a demurrer to evidence and a special verdict. In either case the facts are found, and the court is called upon to determine the law. But in this case the court is to de-

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termine a mere question of fact. It is to deduce, from a comparison of the plaintiff's claim with the defendant's claim, the fact whether the one conflicts with the other. This case, then, presents no analogy to that of a demurrer to evidence where all the facts are admitted.

As to the merits. The reason that ordinary railway tracks are an obstruction to common travelling carriages is, that it is necessary that the rails should be raised above the surface of the ground, because railroad wheels are constructed differently from ordinary wheels in having two circumferences of different diameters, the smaller circumference being intended to rest on the rail, (and called the tread,) and the larger circumference running on the side of the rail. Now, the whole difference between the plaintiff's invention and the common railway track is, that the one is sunk beneath the surface of the ground, and the other not; the groove in this case answering the purpose of the elevation of the rails in the ordinary railway. Now, he does not claim the groove alone, and it is no part of his invention; but the *combination* of the groove with the sunken rails. The object which he accomplishes is the advantage of the present form of railroad wheels, *without* the usual obstruction to common vehicles.

The plaintiff's invention is a combination of the usual rail with a groove on each side of the road for the flanch of the wheel to travel in, so laid as not to rise above the surface. He has patented grooves on *both* sides of the road in connection with the sunken rail. He has patented grooves in combination, and not a single groove. Now, the defendant uses a rail with one groove only—that is, with a groove on one side of the road only, and the rails, instead of being sunk into the ground even with the surface, rise above the surface the height of the rail. The defendant's railway does not purport to do away, and does not in fact do away, the obstruction which it is the object of the plaintiff's invention to remove. The combination is not the same, and the result is different. How, then, can it be said that the one is an infringement of the other?

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Now, it is settled, in the case of *Prouty v. Ruggles*, 16 Pet. 336, [4 Am. & Eng. 351] that, where three things are patented in combination, it is no infringement to use two of them in combination to produce the same result.

Mr. Mayer, in conclusion.

What we say is, that the using of one groove is a mere evasion—a mere colorable claim to invention. If the only object of our invention was the mere sinking of the railway, in order to remove an obstacle from ordinary vehicles, why, we should have patented only the sinking of the railway. But it is not so. We claim the sinking of the road in connection with the grooves for the reception of the flanches, in order to accomplish the safety of the cars, and their being kept in their course, especially at turns and corners. It is too narrow a view which is taken by the other side, to consider the sinking of the rails as the whole of the invention, merely because it describes that as one of its advantages. We maintain that Mr. Stimpson has patented the grooves, because he could not effect the objects of street travel without grooves. It is true, 'he describes his railway as peculiarly advantageous in the streets of towns and cities; still he does not confine it to that. The patent provides for the turning of a curve or corner, and this is as much a part of the claim as the sinking of the rail. The arrangement by which this is attained, with entire safety to the car and without impeding the speed, is singularly beautiful.

But it is said that this is a combination, and if any of the parts are left out, the combination is not used. There is no claim here for a combination, as such. We know what a groove is, and what a flanch is. Now, perhaps the effect, namely, the groove operating to restrain and confine the flanch, and thereby secure the safety of the car, may be produced as well by one groove as two. Still, the principle of the thing is the same. But this is not a combination. A combination is the union of distinct mechanical principles,—not a mere duplication of the same principle. The

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case of *Prouty v. Ruggles* was that of a plough. The whole of the parts were patented as a combination ; and by so doing the patentee informed the world that anything short of the union of all these parts is not his invention. The jogging part of the plough was considered by the court a material part of the plaintiff's invention ; and the defendant, having arrived at the same result without the jogging, had not taken the plaintiff's combination. But suppose there had been three joggings instead of one, and the defendant had taken two, would not that have been an infringement ? The mere *quantum* of effect, whether greater or less, is not the point.

In regard to the jurisdiction, the court, in *11 Wheaton*, says that, when the facts are found, the court will make inferences from them precisely as a jury would do. But in the case of *Prentice v. Zane* the facts were not found. The testimony was given, and the court was left to find out the facts from the testimony. Now, here you have all the facts. You have the plaintiff's claim, the sum, substance, and gist of his invention. You have also the sum and substance of that which we consider an infringement. The one can be placed beside the other ; and it is but a matter of simple comparison to determine whether the one is identical with the other in any of its material parts.

Mr. Justice DANIEL delivered the opinion of the court.

This case comes before us upon a writ of error to the Circuit Court of the United States for the District of Maryland.

The plaintiff in error instituted in the Circuit Court his action on the case to recover of the defendant damages for an alleged infringement of a patent granted to the plaintiff on the 23d of August, 1831, and subsequently, under the authority of the United States, renewed and extended to him for an additional space of seven years from the expiration of the first grant.

On the trial of this suit, upon the plea of not guilty, the parties by agreement submitted their cause to the court upon a case stated. The court, on the case thus made and

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submitted, gave judgment in favor of the defendant ; and to test the correctness of this judgment is the purpose of the investigation now before us.

The invention or improvement claimed by the plaintiff in error, and by him alleged to have been pirated by the defendant, is thus described in the schedule and specification filed with and made a part of the letters patent : " A new and useful improvement in the mode of forming and using cast or wrought iron plates or rails for railroad carriage-wheels to run upon, more especially for those to be used on the streets of cities, on wharves, and elsewhere ; and I do hereby declare that the following is a full and exact description of my said inventions or improvements :

" For the purpose of carrying railroads through the streets of towns or cities, or in other situations where circumstances may render it desirable that the wheels of ordinary carriages should not be subjected to injury or obstruction, I so construct or form the rails, that the flanches of the wheels of railroad cars or carriages may be received and run within narrow grooves or channels, formed in or by said rails, said grooves not being sufficiently wide to admit the rims of the wheels of gigs or other ordinary carriages having wheels of the narrowest kind."

After some remarks descriptive of the shape and dimensions of the plates or rails, and of the grooves to be used, the specification thus proceeds : " Should it be preferred to use the ordinary flat wrought-iron rails, they may be laid double, at such distance apart as to form the proper channel for the flanch between them. Wrought plates may also be formed in the manner represented in figure 7. This plate is rolled so as to have a channel in it, which may be one inch and a quarter wide at top, one inch at bottom, and five-eighths of an inch deep. Where it is necessary to cross a water-gutter in the street, I use a cast-iron plate or plates to cross said gutter, the flanch channels being in such plate or plates. The whole surface between the channels is cast rough, to prevent the slipping of the feet of horses. The aforesaid cast-iron plate is best cast in one

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piece, as it will be stronger than if divided ; although of the same thickness, it must of course be of a width sufficient for the particular gutter to which it is to be applied ; and it should be strengthened by ribs cast on the lower side. In some cases, I cover the gutters the whole width of the street with such cast-iron plates, and extend them to some distance beyond the curbings. I thus make a great improvement in streets for the ordinary purposes of travel." Such being substantially, and indeed literally, as far as it is set forth, the descriptive part of the plaintiff's specification, his *claim*, or the substance and effect of his alleged invention and improvement, is given in these words : " What I claim as constituting my invention, and desire to secure by letters patent, is the employment of plates or rails either of cast or of wrought iron, constructed and operating upon the principle or in the manner herein described ; having narrow grooves on each side of the track for the flanches of car-wheels to run in, by which they are adapted to the unobstructed passing over them of the various kinds of common carriages, and to the running of the wheels on slight curves without dragging. I also claim, in combination with such grooved rails or tracks, the employment of plates of cast-iron for the covering and crossing of gutters, such plates being constructed as described, and having the necessary flanch channels cast in them."

It is manifest from the description of the plaintiff, as given both in his specification and claim, that the improvement he alleges to have been made by him, whether important or otherwise, consists essentially, if not formally, in a combination. His grooves for the admission of the flanches of car-wheels, whether cast in iron plates or produced by the juxtaposition of two flat iron rails, and the rails themselves, were all of them long previously known, and long familiar in use ; and it was by an application or combination of these familiar means or agents that he was to accomplish the result proposed, namely, the unobstructed passage of carriages over railroad tracks, when laid in streets or cities. The only idea or design in the plaintiff's

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description which wears the semblance of originality, is that of sinking or depressing these known agents or materials in combination to a level with the surface over which the passage of ordinary carriages was to take place. Still, these agents or materials were the same well-known grooves, the same car-wheels and flanches, and the same flat rails, which were to constitute the means of the plaintiff's operations. And the object of these operations, the essential improvement claimed, it should be constantly borne in mind, is the preventing of an inequality in the surface of streets, forming an obstruction to ordinary carriages, by reducing the railroad track to the same plane with the surface of the streets themselves.

The acts of the defendant complained of as being an infringement of the plaintiff's patent are thus set out in the case agreed by the parties, viz. : "That before and since the period of said extension of the first above-mentioned patent, the defendant, a corporation created by the General Assembly of Maryland for the business of, and engaged in, the transportation of passengers and goods by railways belonging to it, did, upon its railway, and as part thereof, in the city of Baltimore, and at the corner of two streets to be turned in the course of said transportation, construct, and has ever since kept up and used, a curve furnished and fitted as follows, to wit : On the inner side of the curve is placed a double iron rail cast in one piece, and with the interval between large enough to allow the admission of the flanch of the wheel, the rail on the outer side being the usual one throughout the curve, without difference of any kind, except that it is curved ; and it is admitted that the passage of the cars round the curve is throughout, and has always been, upon the treads of the wheels ; and these rails were intended and used for the purpose of enabling the cars to turn the curves of the streets above mentioned." The mechanism thus described as used by the defendant is, like that contained in the specification annexed to the patent of the plaintiff, evidently a combination, or an application of means or agencies previously known. If that

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mechanism can have any claim to originality, it must be in the *modus* or plan of that application,—not in the invention of the several parts of the mechanism.

It remains, then, by a comparison of these two combinations, to ascertain whether they are the same, either in form, or in the manner of their operation, or in the results they were designed to accomplish.

The combination claimed by the plaintiff as his improvement consists of the use of grooves on both sides of a railroad track, and either cast in iron plates, or made by the parallel position of double lines of flat rails, in which grooves the flanches only of car-wheels are to run, and which are likewise to be too narrow to admit the wheels of carriages having the most slender rims or felloes ; and the whole of this combination or mechanism is to be depressed to a plane exactly corresponding with that of the street in which it may be introduced ; as, without this arrangement, it is obvious that the unobstructed passage of ordinary carriages—the great object in view—could never be attained. The machinery of the defendant, complained of as an infringement of the plaintiff's patent, consists of a double flat rail of cast iron placed on the inner side of a curve or corner intended to be passed, and an ordinary flat rail on the exterior line of the same curve to be passed ; and the whole of this machinery is constructed on the same plane with the general track of the road, elevated to whatever point that track may be raised, and without regard to the convenience of ordinary carriages making transverse passages through the streets ; such facilities to ordinary carriages being no part of the end proposed by the defendant. From this comparison of the combinations in use by the plaintiff and the defendant respectively, and upon a just construction of the plaintiff's patent, the court, so far from regarding them as identical, either in mode, in design, or in result, is, in all their characteristics, constrained to view them as wholly dissimilar, and as not conflicting with each other. The combination, therefore, used by the defendant, cannot be regarded as an infringement of the

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plaintiff's patent. This conclusion is in strictest accordance with the ruling of the late Justice STORY at circuit in the case of *Prouty v. Ruggles*, afterward confirmed by this court, as will be seen in 16 Peters, 341 [4 Am. & Eng. 351]. In the case just cited, the law is thus propounded by the Chief Justice: "The patent is for a combination, and the improvement consists in arranging different portions of the plough, and combining them together in the manner stated in the specification, for the purpose of producing a certain effect. None of the parts referred to are new, and none are claimed as new; nor is any portion of the combination less than the whole claimed as new, or stated to produce any given result. The end in view is proposed to be accomplished by the union of all, arranged and combined together in the manner described. And this combination, composed of all the parts mentioned in the specification, and arranged with reference to each other and to other parts of the plough in the manner therein described, is stated to be the improvement, and is the thing patented. The use of any two of these parts only, or of two combined with a third which is substantially different in form or in the manner of its arrangement and connection with the others, is therefore not the thing patented. It is not the same combination if it substantially differs from it in any of its parts." The same doctrine is ruled in the case of *Carver v. Hyde*, 16 Peters, 513 [4 Am. & Eng. 365].

A preliminary question was raised in the argument of this cause, which, as it is connected with the practice in this court and in the courts inferior to this, and has an important bearing on the convenience both of the courts and the bar, is deserving of consideration. The question alluded to is this: Whether, as this case is not brought up either upon express or specific exceptions to the rulings of the Circuit Court, nor upon any decision of that court upon a special verdict found by the jury, but comes before us upon an agreed statement between the parties, this court can in this form take cognizance thereof? And it is insisted, for the defendant in error, that, under such circumstances, the

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writ of error could not be prosecuted. The objection thus urged is not one of the first impression in this court; it has been urged upon, and considered, by them on a former occasion, and must be regarded as having been put to rest.

This objection to the jurisdiction of the appellate court upon a case agreed between the parties in the court below, had its origin, no doubt, in the practice in the English courts, by which we are told that the appellate tribunal will not take cognizance of such a case, as it will upon one standing on exceptions, or on a special verdict.

This refusal, however, so to take cognizance, will, upon examination, be found to grow out of the peculiar modes of proceeding in the English courts, as is shown by Mr. Justice Blackstone in the third volume of his Commentaries, page 377, in his chapter on the trial by jury, in which we find the following account of the proceedings in those courts: "Another method," says this writer, "of finding a species of special verdict is, when the jury find a verdict generally for the plaintiff, but subject, nevertheless, to the opinion of the court above, on a special case stated by the counsel on both sides, with regard to the matter of law, which has this advantage over a special verdict, that it is attended with much less expense, and obtains a speedier decision; the *postea* being stayed in the hands of the officer of *nisi prius* till the question is determined, and the verdict is then entered for the plaintiff or defendant, as the case may happen. But as nothing appears on the record but the general verdict, the parties are precluded hereby from the benefit of a writ of error, if dissatisfied with the judgment of the court or judge upon the point of law, which makes it a thing to be wished, that a method could be devised of either lessening the expense of special verdicts, or else of entering the cause at length upon the *postea*." So, too, Mr. Stephen, in his Treatise on Pleading, page 92, speaking of the practice in England of taking verdicts subject to a special case, remarks, "that a special case is not like a special verdict entered on record, and consequently a writ of error cannot be brought on this decision."

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The objection now urged, and the authorities bearing upon it, were pressed on the attention of this court, and considered by them, in the case of *The United States v. Eliason*, reported in 16 Peters, 291. In that case this court said: "It is manifest that the reason why, according to the practice in the English courts, a writ of error will not be allowed after a case agreed, is this, and this only, that in those courts the agreed case never appears upon or is made a part of the record, and therefore there is no ground of error set forth, upon which an appellate and revising tribunal can act. In the language of Justice Blackstone, nothing appears upon the record but the general verdict, whereby the parties are precluded from the benefit of a writ of error." This court goes on further to remark, that, "by a note to page 92 of Mr. Stephen's Treatise, it is said to have been enacted by the 3d and 4th of William the Fourth, chapter 42, that, where the parties on issue joined can agree on a statement of facts, they may, by order of a judge, draw up such statement in the form of a special case, for the judgment of the court, without proceeding to trial. By the settled practice anterior to this statutory provision, it was in the power of the parties to agree upon a statement of the case. It would seem reasonable and probable, therefore, that the power given to the judge, (as an exercise of his judicial functions,) to regulate the statement, was designed to impart a greater solemnity and permanency to the preparation of the proceeding, and to place it in an attitude for the action of some revising power. But should a want of familiarity with the details of English practice induce the hazard of misapprehension of its rules, or of the reasons in which they have their origin, the decisions of our own courts, and the long-established practice of our own country, are regarded as having put the point under consideration entirely at rest." The court then, after adverting to several decisions deemed applicable to the point, came to the following conclusion: "This court, therefore, has no hesitancy in declaring that the point of practice raised by the defendant's counsel presents no ob-

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jection to the regularity in the mode of bringing this case before it." Regarding the above conclusion as promotive both of justice and convenience, we give it our entire concurrence; and upon the character, therefore, of the particular cause before us, as disclosed in the case agreed by the parties, we decide that the judgment of the Circuit Court be, and the same is hereby, affirmed.

ORDER. This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the District of Maryland, and was argued by counsel; on consideration whereof, it is now here ordered and adjudged by this court, that the judgment of the said Circuit Court in this cause be, and the same is hereby,

AFFIRMED WITH COSTS.

Note:

1. A combination not infringed by use of less than all its parts—by omission of an element.

Prouty v. Ruggles, 16 Pet. 336; 4 Am. & Eng. 351.

Silsby v. Foote, 20 How. 378.

McCormick v. Talcott, 20 How. 402.

Eames v. Godfrey, 1 Wall. 78.

Gould v. Rees, 15 Wall. 187.

Dunbar v. Myers, 94 U. S. 187.

Schumacher v. Cornell, 96 U. S. 549.

Water Meter Co. v. Desper, 101 U. S. 332.

Wicke v. Ostrum, 103 U. S. 461.

Gage v. Herring, 107 U. S. 640.

Rowell v. Lindsay, 113 U. S. 97.

Blake v. City of San Francisco, 113 U. S. 679.

Not infringed by substitution of new element:

Brooks v. Fiske, 15 How. 212.

Notes and Citations.

Gould *v.* Rees, 15 Wall. 187.
Fuller *v.* Yentzer, 94 U. S. 288.
McMurray *v.* Mallory, 111 U. S. 97.
Signal Co. *v.* Hall R. R., 114 U. S. 87.
Sharp *v.* Reissner, 119 U. S. 631.

Patent in suit :

No. . Stimpson, J. August 23, 1831. Rails for Railroad Carriages. Reissue, September 26, 1835. Reissue, August 27, 1840.

OTHER SUITS ON SAME PATENT :

Stimpson *v.* Westchester R. R. Co., 1846. 4 How. 380 ; 2 Robb, 335 ; 1 Whit. 330 [4 Am. & Eng. 398].
Stimpson *v.* The Railroads, 1847. 1 Wall., Jr. 164 ; 2 Robb, 595.

Cited :

IN SUPREME COURT OF UNITED STATES :

Graham *v.* Bayne, 1855. 18 How. 60 ; Bk. 15, L. ed. 265.
Suydam *v.* Williamson, 1857. 20 How. 427 ; Bk. 15, L. ed. 978.
Pomeroy's Lessee *v.* Bank of Indiana, 1863. 1 Wall. 592 ; Bk. 17, L. ed. 638.
Stimpson *v.* Woodman, Dis. opin., 1869. 10 Wall. 117 ; Bk. 19, L. ed. 836.
Henderson's Spirits, 1871. 14 Wall. 44 ; Bk. 20, L. ed. 815.
Gould *v.* Rees, 1871. 15 Wall. 187 ; Bk. 21, L. ed. 39.
Gill *v.* Wells, 1874. 22 Wall. 1 ; Bk. 22, L. ed. 699.
Reedy *v.* Scott, 1874. 23 Wall. 352 ; Bk. 23, L. ed. 109.
Suprs. *v.* Kennicott, 1880. 103 U. S. 554 ; Bk. 26, L. ed. 486
Rowell *v.* Lindsay, 1885. 113 U. S. 97 ; Bk. 28, L. ed. 906.

Notes and Citations.

IN CIRCUIT COURTS :

Singer v. Walmsley, February, 1860. 1 Fish. 558.

In re Aiken, July, 1860. Ms. D. C.

Derby v. Jacques, October, 1860. 1 Cliff. 425.

Murray v. Lovejoy, May, 1863. 2 Cliff. 191.

IN TEXT-BOOKS :

2 Abb. Pat. Law, 1886, pp. 251, 259.

Walker on Pats., 1883, p. 258.

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THE WASHINGTON, ALEXANDRIA, AND GEORGETOWN STEAM PACKET COMPANY, PLAINTIFFS
IN ERROR, v. FREDERICK E. SICKLES AND
TRUMAN COOK.

10 How. 419-441. Dec., 1850.

[Bk. 13, L. ed. 479 ; 1 Whit. 554 ; Fish. Pat. Rep. 569.]

Same case, 24 How. 333 ; 5 Wall. 530 ; 19 Wall. 611.

Contract construed. Declaration in assumpsit. Evidence.

1. Where a declaration in assumpsit set out two counts, the first on a parol contract that plaintiffs were entitled to certain savings resulting from the use of their patented machine, and especially set forth the mode of ascertaining the amount, the second upon a *quantum meruit*, held that evidence of another mode than that set forth of ascertaining the amount was admissible (p. 181).
2. The defendants having offered the evidence of the late president of the company, who denied that he made the special contract alleged, and stated that he made a different one, the jury should have been instructed to find for the defendants, if they believed this evidence (p. 183).
3. A charge to the jury that defendants were liable for the acts of their general agent, whether he reported his agreement to them or not, is correct (p. 184).
4. The contract held to be an entire contract, and not divisible, under the term of which no right of action for any portion of the sum could be supported until the patent expired. A charge that it could be supported held erroneous (p. 184).

THIS case was brought up by writ of error from the Circuit Court of the United States for the District of Columbia, holden in and for the county of Washington.

It came up upon a bill of exceptions to the admission of certain evidence, and four bills of exceptions to refusals of

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the court below to grant certain prayers, all of which exceptions were taken by the defendants below—the plaintiffs in error here. But as two of the last-named bills of exceptions were not pressed in this court, it is not necessary to state them, or to state more of the case than is sufficient to show the points argued and decided by this court.

In March, 1846, Sickles and Cook brought an action against the Steam Packet Company. The cause of action is thus stated in the declaration :

“Whereupon the said plaintiffs, by Joseph H. Bradley, their attorney, complain, for that whereas heretofore, to wit, on the first day of July, 1844, the said defendants, at the county aforesaid, being the owners of a certain steamboat called the *Columbia*, and running in the Potomac River and Chesapeake Bay, in consideration that the said plaintiffs, being the proprietors of a certain machine called ‘Sickles’ cut-off,’ designed to effect a saving in the consumption of fuel for steam-engines, would place one of the said machines on the said steamboat *Columbia*, undertook and promised the said plaintiffs to apply the whole value of the saving of the fuel on board the said boat, which should be effected by the said machine, in the first place, to pay the cost and expenses of building the said machine, and putting the same on the said boat ; and thereafter, and after having paid the said costs and expenses, that they, the said defendants, would, so long as the said steamboat should continue to be employed by the said defendants, if the patent-right for the said machine should continue so long, pay to the said plaintiffs three-fourths of the saving in fuel caused by said machine. And that the saving caused by the said machine called the cut-off, on board the said boat, should be ascertained at any time the said plaintiffs should desire it, in the following manner, to wit, by taking equal quantities of wood, and using the same first with one and then with the other cut-off, (the defendants then having in use on board their said boat a machine called the throttle,) to show with which the boat would run the longest under the same circumstances. And thereupon the said plaintiffs, confiding

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in the said promises and undertakings of the said defendants, at great cost, to wit, at the cost of two hundred and fifty dollars, did erect and build, and place on the said steamboat *Columbia*, at the request of the defendants, a machine called 'Sickles' cut-off,' which said machine, and the same hath ever since, to wit, from the 20th day of August, 1844, continually, to the beginning of this action, been used by the said defendants in and upon the said boat; and that, on the 19th day of August, 1845, at the county aforesaid, the said plaintiffs gave notice to the said defendants that they would, on the next day, that is to say, on the 20th day of August, 1845, if they desired, make the said experiment in the said agreement mentioned, to test the relative value of the said machine; and, for that purpose, that one of the said plaintiffs would go from Washington to Baltimore, in the said boat, on the said 20th of August, 1845, and make the said experiment; and the said defendants, by their president, did then and there assent thereto, and did direct the officers of the said boat, or some of them, to aid in conducting the said experiment; and the said plaintiffs, in fact, further say, that one of the said plaintiffs, to wit, the said Truman Cook, did, on the said 20th day of August, 1845, proceed in the said boat from the said city of Washington to Baltimore, in the State of Maryland, and did, on the said voyage, with the assistance of the officers of the said boat, make the said experiment, and did take two piles of wood of equal dimensions and under like circumstances; the pile employed in the use of the throttle cut-off was burned in two hours and seven minutes; and the pile used by the cut-off of the plaintiffs lasted three hours and fifteen minutes, showing a saving in favor of the latter of 34 and $\frac{1}{16}$ per cent., of all which the said defendants had due notice; whereby a great amount and value of fuel has been saved by the said defendants, to wit, the amount of twenty-five hundred dollars; and the said plaintiffs in fact say, they were and are entitled to recover of and from the said defendants, out of the said sum of money, as well as the said sum of two hundred and fifty dollars, as and for

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the costs and expenses of erecting and building the said machine, and placing the same on the said steamboat, as also the further sum of sixteen hundred and eighty dollars and fifty cents, being three-fourths of the said savings within said period of time after the said machine was put in operation on the said boat, and while the same was used by the said defendants, to the time of the bringing this suit; and being so entitled, the said plaintiffs, to wit, on the day and year aforesaid, and often afterward, at the county aforesaid, demanded the whole of the said two sums of money, to wit, the sum of nineteen hundred and thirty-seven dollars and fifty cents, of and from the said defendants, and the said defendants utterly neglected and refused to pay the same, or any part thereof, to the said plaintiffs, and still refuse, to the damage of the plaintiffs four thousand dollars; and therefore they sue.

“JOSEPH H. BRADLEY, *for Plaintiffs*.”

“Add a count for putting the machine on the boat at the request of the defendants, with a *quantum meruit*.”

“JOSEPH H. BRADLEY, *for Plaintiffs*.”

The defendants pleaded *non assumpsit*, upon which issue was joined, and in March, 1847, the cause came on for trial.

The following is the evidence offered by the plaintiffs, which, being objected to by the defendants, but admitted by the court, formed the subject of the exception to evidence:

“On the trial of this cause, the plaintiffs, to maintain the issue on their part joined, offered and gave evidence tending to show that on or about the 18th day of June, 1844, at the county aforesaid, the said plaintiffs being the owners of the patent-right to a certain machine called a cut-off, of which the said Frederick E. Sickles was the inventor, and the said defendants being the owners of the steamboat called the *Columbia*, on which they had in use a certain machine called the throttle cut-off, the object of both said machines being to save the consumption of fuel in the use of steam-engines,

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the said plaintiffs made and entered into a certain contract with William Gunton, the president of the steamboat company, and the general agent thereof, whereby it was agreed that the said plaintiffs should construct and place on board the said steamboat one of their said machines at their own cost and expense ; that the same should be tried, and, if it produced any saving, that the cost of putting the said machine in operation on board the said boat, not to exceed two hundred and fifty dollars, should be first paid out of the savings of fuel effected by the said machine ; that the said machine should be used by the defendants during the continuance of the patent, if the said boat should last so long ; and after the payment of the said costs and expenses of putting the said machine in operation on board the said boat, the savings caused thereby, in the consumption of fuel, should be divided between the said plaintiffs and defendants in the proportion of one-fourth to the defendants and three-fourths to the plaintiffs ; and, in order to ascertain the amount of such savings, an experimental trial should be made at any time the plaintiffs should direct it, after the said machine was in successful operation, in the following mode : Two piles of wood should be taken of equal dimensions ; one should be used with one of the cut-offs, and the other pile with the other cut-off, under like circumstances, and the length of time required in the consumption of the said piles of wood, respectively, should be taken as the evidence of the difference in the amount of savings in the one over the other ; and if the said machine produced no saving, it was to be taken off, and the boat restored to its former condition, at the expense of the plaintiffs.

“ That the said contract was wholly in parol, and, within three days after it was made, the plaintiffs entered into a contract in writing with T. W. and R. C. Smith, of Alexandria, by the said plaintiffs, as follows : (copied in record :) and the said defendants caused their said boat to lie at Alexandria to have the said machine fitted to her engine ; that the said T. W. and R. C. Smith proceeded with all con-

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venient dispatch to make the said machine, and put the same on board the said boat, at the cost of two hundred and forty-two dollars ; that the same was completed and placed on board the said boat, and in complete action, on the 9th day of November, 1844, with the knowledge of the defendants, and that the same was continually thereafter, to the bringing of this suit, used by the said defendants on board the said boat.

“ That on the 19th day of August, 1844, the said Truman Cook, one of the said plaintiffs, gave notice, on board the said boat, to the said defendants, by William Gunton, president as aforesaid, that they desired on the next day, the same being the regular day for the passage of the said boat from the city of Washington to Baltimore, to go on the said trip and make the experiment, provided by their said contract, to ascertain the saving caused by the said machine ; and the said William Gunton, president as aforesaid, directed the officers of the said boat, or one of them, to take care that the said Cook did not throw sand in his eyes ; and on the said 20th day of August, 1844, the said Cook, one of said plaintiffs, did in fact go from the city of Washington to Baltimore on board the said boat, and the said experiment was in fact made, under the superintendence of the officers of said boat on behalf of said defendants, and by the said Cook on behalf of said plaintiffs, and the whole was, at the request of plaintiffs, carefully observed and noted by Captain Job Carson, for many years mate and captain of a steamboat, and the result of the said experiment was, that the said machine of said plaintiffs caused a saving of fuel, over and above the said ‘ throttle cut-off,’ of $34\frac{1}{4}\%$ per cent., and full, minute, and accurate minutes of the said experiment, and of the result thereof, were taken and made in writing by the officers of the said boat, or one of them ; that the average consumption of wood on her said trip to Baltimore was cords, and on her trip from Baltimore was cords, and the average price of wood, during the period she ran, from the 9th of November, 1844, to the bringing of this suit, was \$, and, estimating the saving

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by the said machine at one-third, it amounted to \$ up to the impetration of the writ in this case.

“The plaintiffs further gave evidence to show, by practical and scientific engineers and builders of steam-engines, that the said experiment was the only mode by which the said savings could be ascertained with any degree of certainty; that it had been resorted to and tried by them; and one of them further proved, that, on the experiment conducted by him to test the difference between ‘Sickles’ cut-off’ and the ‘throttle cut-off,’ in a large steamboat belonging to Baltimore, and having an engine of the same construction as that on board the *Columbia*, the saving of the former over the latter was 42 per cent.; and they further proved that they were acquainted with both of the said machines, both theoretically and practically, and that no engineer would hesitate to say that ‘Sickles’ cut-off’ was far superior to the throttle, and to any other with which they were acquainted.

“They further gave evidence to show that the said machine had been applied by the plaintiffs to four other steamboats belonging to the port of the city of Washington, and the saving of fuel caused thereby ranged from 18 to 33 per cent. on board the said boats, respectively, and that the saving could not be ascertained by the amount of wood actually consumed without knowing and estimating the condition of the hull, and engine, and machinery, the state of the weather, the water, the freight, and the speed of the boat; and the only test was the experiment aforesaid, or one conducted on scientific principles which would give a proximate result.

“To introduction of which said evidence by practical and scientific engineers and others, builders of steam-engines, tending to show the operation of the said cut-off, and the savings resulting therefrom on other boats, the defendants, by their counsel, objected, because the same was inapplicable to the issue on the first count in the plaintiff’s declaration, and that the same could not be offered on the general counts, unless the plaintiffs abandoned the first.

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" Which objection the court overruled, and allowed the said evidence to go to the jury ; to which ruling of the court the defendants, by their counsel, excepted, and prayed that this their bill of exceptions may be signed and sealed—which is done this 25th day of March, 1847.

" JAMES S. MORSELL. [SEAL.]

" JAMES DUNLOP." [SEAL.]

The defendants then offered evidence which is all incorporated into the bill of exceptions ; but the following is that part upon which the prayer to the court below rested, involving the point which was argued in this court :

" The defendants, to support the issue on their part, called William Gunton, late president of the defendants' company, who, being first sworn on his *voir dire*, stated that he had resigned the office of president of said company, and sold and transferred all the stock he held therein, and that he was in no way interested in the event of this suit between the said plaintiffs and the defendants ; and the said witness, being sworn in chief, testified that he did not, as president of said company, or otherwise, make with the said plaintiffs the contract for the use of the cut-off called Sickles' cut-off, on board the defendants' steamboat called the *Columbia*, as the same is set forth in the first count in the plaintiffs' declaration ; that some time in the spring of the year 1844 he first met with Truman Cook, one of the plaintiffs, and after having conversed several times with the said Cook on the subject of the application of the said cut-off to the engine on board the said boat, the said Cook stated that he was very desirous to bring the cut-off to the favorable notice of the officers of the government, with the view of introducing the same into use on board the national steamships, and other steam-vessels sailing on the waters of the river Potomac and the Chesapeake Bay ; that he, as president of the defendants' company, agreed with the said Cook that he might place, at his own expense, the said cut-off on the engine of the said boat, and that if, on trial of the same on board the said boat, the said cut-off should be

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approved of, and the defendants should wish to purchase the same, the terms of such purchase should be afterward determined on between the said parties ; but if the said cut-off should not be approved of, or the terms proposed by said Cook for the use of the same by the said defendants on their said boat should be such that the said defendants could not accede thereto, the said Cook was to take the said cut-off from the said boat at his own expense, and restore the engine on the said boat to the same condition in which it was before the application of the said cut-off thereto ; that the said cut-off was placed on the said engine pursuant to such last-mentioned agreement, and not in pursuance of any such agreement as is mentioned in the first count of the plaintiffs' declaration ; that afterward, and when the witness, still being president of defendants' said company, had had an opportunity to form some idea of the value of the said cut-off, he conversed with said Cook respecting the terms on which the same might be purchased for the use of the defendants on board the said boat, and the said Cook informed the said witness that the defendants should have the use of the said machine on as favorable terms as the same had been disposed of to the owners of the steamboat *Augusta*, or any other steamboat, but did not then, or at any other time, inform the witness at what price the same had been sold to the said steamboat *Augusta*, or any other steamboat, or make any such definite proposition for the sale of the said machine to the defendants as would enable him to lay the same before the board of directors of the said company for their approval ; and that the defendants have at no time refused the said Cook or the plaintiffs permission to remove the same from the engine on board the said boat, and restore the said engine to its former condition."

The prayer to the Circuit Court, founded on this evidence, was as follows :

"Whereupon the defendants, by their counsel, prayed the court to instruct the jury, that if the jury believed, from the evidence, that the defendants agreed with the plaintiffs

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that they, the said plaintiffs, might, at their own expense, place the cut-off called Sickles' cut-off on the engine of the defendants' boat called the *Columbia*, that they, the said plaintiffs, might exhibit the qualities and usefulness of the said machine to the public, and thereby facilitate the introduction of the same into use on board the national steamships, and other steam-vessels sailing on the waters of the Potomac River and the Chesapeake Bay; and that if, on the trial of the same on board the *Columbia*, the said cut-off should be approved of, and the defendants should wish to purchase the same, the terms of said purchase should be afterward determined on between the said parties; but if the said cut-off should not be approved of, or the terms proposed by the plaintiffs to the defendants, for the use thereof, should be such that the said defendants could not accede thereto, the said plaintiffs were to take the said cut-off from the said boat at their own expense, and reinstate the boat and her engine in the same condition in which she was before the application of the said cut-off thereto; and that the said cut-off was placed on the said boat pursuant to said agreement and permission as aforesaid, and not pursuant to any such contract as is set out in the first count in the plaintiffs' declaration; and that the said plaintiffs have made no definite proposition to the said defendants for the sale and use of the said cut off, and have not been refused permission by the defendants to remove the same from their said boat, then the plaintiffs are not entitled to recover in this action, although the jury should believe from the evidence that the said machine was approved of, and has been used by, the said defendants; which instruction the court refused to give, there being only two judges on the bench, and they being divided in opinion on said instruction; to which refusal the defendants, by their counsel, excepted, and prayed the court that this their bill of exceptions may be signed and sealed—which is done this 25th day of May, 1847.

"JAMES S. MORSELL. [SEAL.]

"JAMES DUNLOP." [SEAL.]

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Among the evidence brought forward by the defendants, were the two following letters, which are inserted here because they are remarked upon by the court in the decision of the remaining exception :

W. Gunton to Sickles & Cook.

“ As I am, week after week, annoyed by warrants, under a pretended contract, never entered into by me, respecting the cut-off placed under your direction on the steamer *Columbia*, and as I have repeatedly explained in writing, both to Messrs. T. W. and R. C. Smith, of Alexandria, and Mr. A. T. Smith, of this city, your agent or attorney, what the understanding between Mr. Cook and myself was in relation to the subject, and have expressed my willingness to comply therewith, I hereby give you notice, that unless you, within ten days from this date, remove the aforesaid cut-off from the *Columbia*, and replace, agreeably to that understanding, her machinery in the same condition in which it was immediately before the cut-off was applied thereto, I shall promptly thereafter cause the work to be done at your expense, and hold you liable for the same, in addition to the amount of expense incurred and loss sustained, by reason of the detentions of the *Columbia*, mentioned in my letters to your agent, Mr. A. T. Smith, before alluded to.

“ W. GUNTON, *President*.

“ *Washington City, 14th April, 1841.*

“ Messrs. SICKLES & COOK.”

Reply to the above.

“ DR. WILLIAM GUNTON, *President* :

“ We have received your note of the 14th instant, and hasten to reply to it, to avoid any future misapprehension on your part of the positions we respectively hold. You have chosen to make terms entirely different from those under which we contracted with you ; have refused to execute your contract with us ; have driven us to the necessity

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of a suit ; and we are now resolved to bring the matter to an issue.

“ You complain that you are annoyed by warrants. It is your own fault. You say you have repeatedly [stated] to Messrs. T. W. and R. C. Smith, of Alexandria, and Mr. A. T. Smith, of this city, what the understanding between Mr. Cook and yourself was in relation to this subject, and have expressed yourself willing to comply therewith. We have, as often as occasion and opportunity offered, stated to you, in the plainest terms, that your representations thus made were not the terms of our contract, and have as clearly and distinctly stated to you what that contract was. We now repeat it. We undertook to put Sickles' cut-off on the engine of the steamer *Columbia*, and offered to receive \$1,000 for the right to use it. You, seeming to doubt the importance of the invention, declined that offer ; and we then offered to put the cut-off on, taking as a compensation for its use the value of three-fourths of the fuel saved by its use, deducting from the first savings \$250 for the construction of the machine, the saving to be ascertained by either of us by experiments with our cut-off and the old one attached to the engine of the *Columbia*, and you were to continue the use of our cut-off, provided we made it work well, so long as the boat continued to belong to your company. These terms you accepted in the most unequivocal manner. We employed the Messrs. Smith to construct the machine. This was all they had to do with it. They did make it, and it was applied, and has operated successfully. Persons were directed on board the boat to make accurate observations of the saving. It was found to be far greater than you had any idea of. We asked for compensation, and you denied the contract. Your own acts have compelled us to bring suit ; and, in order to bring the matter to a close after that suit was brought, we took out a warrant against your company, so that either party might, by appeal, bring the question at once before the court for judicial decision. These are resisted on technical grounds, and now you give us notice to remove the cut-off. However

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much we might be disposed to avoid litigation, and to terminate all controversy by an amicable adjustment, the course you have taken has determined us, and we now give you notice that we will not only not interfere with the cut-off on board the *Columbia*, and hereby protest against your interfering with it, but we will every week bring an action to recover the amount of saving coming to us on the terms of our contract with you. Until we can get a judicial decision in the matter, you must choose for yourself.

“SICKLES & COOK.

“*Washington, 15th April, 1846.*”

The remaining prayer to the Circuit Court was as follows :

“The defendants, by their counsel, further prayed the court to instruct the jury, that if the jury believed, from the evidence, that the contract set out in the first count of the declaration, and alleged to have been made by the plaintiffs and William Gunton, the president of the defendants' said company, was never authorized by a board or quorum of the directors of said company, as provided by their charter of incorporation, and was never sanctioned or approved of by said board or quorum of the said directors, and that the said William Gunton, in making such contract with the plaintiffs, if the jury believe the same to have been made by him, did not act within the scope of his authority as such president, then the said contract is void as respects the said defendants, and the said plaintiffs are not entitled to recover under the said first count in their declaration ; which instruction the court refused, but granted the same with the following modification : But if, from the evidence, the jury shall find that William Gunton, the president of the defendants' company, and acting as their general agent, made with the plaintiffs the contract set out in the first count of the said declaration, and that the plaintiffs, under the said contract, put the said machine on the defendants' boat, and the same was used by the defendants at the time and times mentioned in the said count, and that the same was beneficial to the defendants, then the plaintiffs are en-

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titled to recover on the said first count, notwithstanding the jury shall find that the terms of the said contract were not communicated to the defendants, and the said William Gunton reported to the said defendants a different contract ; to which refusal of the said instruction, and modification thereof, the defendants, by their counsel, excepted, and prayed that this their bill of exceptions may be signed and sealed—which is done this 25th day of May, 1847.

“ JAMES S. MORSELL. [SEAL.]

“ JAMES DUNLOP.” [SEAL.]

The jury found a verdict for the plaintiffs, and assessed the damages at \$1,800, with interest from the 9th of November, 1845. A writ of error brought these several rulings of the Circuit Court before this court for revision.

It was argued by *Mr. Lawrence*, for the plaintiffs in error, and by *Mr. Lee* and *Mr. Bradley*, for the defendants in error.

The argument on behalf of the plaintiffs in error, with respect to the admissibility of the evidence, was as follows :

1st. The same was inapplicable to the issue on the first count in the plaintiffs' declaration.

2d. That the same could not be offered on the general count, unless the plaintiffs abandoned the first.

The plaintiffs in error insist that the court erred in allowing the evidence objected to by them to go to the jury—

1st. Because it was in no way applicable to the issue on the special count in the plaintiffs' declaration. It did not tend to prove any one of the allegations contained in that count, and was therefore irrelevant and collateral.

The plaintiffs allege that a special mode of testing the value of their machine, in contrast with that previously used on board the defendants' boat, was agreed upon by the parties, and constituted part of their contract ; the experiment was, as they allege, to be made on board the *Columbia*. It was therefore wholly immaterial to the point in issue on the first or special count, what had been the result

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of experiments made on board steamboats in Baltimore or Washington. The defendants had no notice of such experiments, were not present at them, and ought not be affected by them.

Neither was it proper to give in evidence the opinion of engineers or steamboat builders, however well informed as to the relative value of the two machines, particularly as the plaintiffs allege a special mode of ascertaining the difference in value had been agreed on by the parties in their alleged contract.

It is a familiar rule of evidence, that it must correspond with the allegations in the pleadings of the party who offers it. 1 Greenleaf on Evidence, secs. 51 and 52.

This rule excludes all evidence of collateral facts. The admission of evidence of that character tends to divert the minds of the jury, to excite prejudice, and mislead them; the adverse party is taken by surprise, and cannot be prepared to rebut it.

Thus, where the issue between a landlord and his tenant was whether rent was payable quarterly or half-yearly, evidence of the mode in which other tenants of the same landlord paid their rent was held by Lord Kenyon inadmissible. Peake's Cases, 95.

So the opinions of engineers, and the results of experiments on other boats, ought not to have been allowed.

2dly. This evidence was not admissible under the *quantum meruit* count.

Where there is an express contract, and a stipulated mode of compensation, the party rendering the services cannot waive the contract, and resort to an action on a *quantum meruit*, or an implied assumpsit. Champlin v. Butler, 18 Johns. 169.

Where the special agreement subsists in full force, the plaintiff cannot recover under the common counts, but the remedy is on the contract. Buller's N. P. 139; Raymond v. Bearnard, 12 Johns. 274; Jennings v. Camp, 13 Johns. 94; Clarke v. Smith, 14 Johns. 326; Wood v. Edwards, 19 Johns. 205; Perkins v. Hart's Executor, 11 Wheat. 237.

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In the case before the court, the contract was subsisting and continuing ; it was to last as long as the defendants should continue to employ the boat *Columbia*, if the patent for the machine continued so long. The plaintiffs had declared upon it as a subsisting contract. The *quantum meruit* count was for the same subject-matter as the special contract.

In the case of *Cooke v. Munstone*, 1 Bos. & Pull. N. R. 354, the declaration contained a count on a special contract, and a count for money had and received to the use of the plaintiff ; the plaintiff failed to prove the contract laid, but proved another variant from it ; he claimed to recover on his common counts ; the court decided that the plaintiff could not proceed on the common counts. The court said : " The cases in which the plaintiff had been allowed to proceed on these counts are those in which the special contract is put altogether out of the case. It would be very strange to allow the plaintiffs to recover on the general *indebitatus assumpsit*, and still leave him to his right to recover for non-performance of his special contract. It is said he has a right to proceed at the same time on the special and on the general count ; but the cases only warrant a permission to resort to the latter when the former has failed altogether. In this case, if we were to allow the plaintiff to go into the evidence he offered, it would amount to saying that there was no evidence of a subsisting special agreement, when in truth there was such evidence."

In *Clarke v. Smith*, 14 Johns. 326, the declaration contained a count on a special agreement, and the common counts relative to the same subject-matter. The plaintiff, at the trial, proceeded to give evidence under the common counts ; the witness, on cross-examination, said there was a written contract between the parties, under which the work was done ; objection was then made to the plaintiff's giving evidence under the common counts, which was overruled by the court.

On appeal, this was held to be error, and it was decided, that whenever the special contract is still subsisting, and

Argument of counsel.

no act done or omitted by the one party which would authorize the other to consider the contract rescinded, the remedy must be on the special contract, which principle will be found to run through all the cases.

While the contract is still subsisting, part performance will not entitle the plaintiff to resort to the common counts to recover the value of that which he has done in part fulfilment of the contract.

If the plaintiffs could not resort to the common count, they ought not to have been allowed, the defendants objecting, to give evidence applicable only to that count. There was conflicting testimony respecting the value of the machine, and the minds of the jury must have been affected by the testimony thus improperly offered.

With respect to the exception founded on the refusal of the court to grant the first prayer made by the defendants below, the error alleged was this :

If the plaintiffs acted under a special agreement with the defendants in putting the said machine on the defendants' boat, and there was any failure on the part of the defendants to comply therewith in any respect, the proper and only remedy for the plaintiffs was by action on that special agreement.

Whether the agreement was such as the plaintiffs pretended, or such as the defendants pretended, while such agreement was subsisting, there could be no remedy for the plaintiffs on the common counts.

If the agreement was such as the plaintiffs have set out in the first count in their declaration, and the jury believe the evidence introduced to prove the same by the plaintiffs, then they were entitled to recover on that count.

But if the jury gave greater credence and weight to the evidence offered by the defendants to sustain the issue on their part, and believe the contract to be proved to be such as the defendants set up, then the plaintiffs were not entitled to recover—

1st. Because of their failure to prove the contract set out by them.

Argument of counsel.

2d. Because a different contract was proved by the defendants, of which there was no breach on their part alleged or proved, and which was still subsisting.

It is clear, from the terms of the agreement, as shown by the defendants' evidence, that the machine was not put on the defendants' boat to be used by them under a contract of purchase, nor was the use thereof to be paid for by the defendants. It was put on board by permission of the defendants at the request of the plaintiffs, and for their advantage. The plaintiffs were at liberty to remove it at their pleasure. If the defendants should wish to acquire the right to use it permanently, it was to be made the subject of a future agreement.

If the jury believed this, and certainly the defendants' evidence tended to prove it, and no subsequent contract was alleged or proved, and no offer by the plaintiffs to remove the machine from the boat, and refusal by the defendants to allow it, either alleged or proved, then the plaintiffs made out no case against the defendants; and, when asked by the defendants, it was the duty of the court so to tell the jury, and their refusal was an error.

The court seemed to have been of opinion, that notwithstanding the jury might believe, from the evidence, that the defendant did not contract with the plaintiffs, either for the purchase or use of the machine, and that the same was put on board the plaintiffs' boat for their own benefit and advantage with the public, yet, as the same had been used by the defendants, and they had derived benefit therefrom, they ought to pay for it; and if they refused to do so, the plaintiffs had a right to recover for such use.

Respecting the last prayer, the plaintiffs in error contend that the court erred in refusing the instruction as originally asked for, and in giving the same with said modification.

In the third section of defendants' said charter, it is provided that the affairs of the company shall be conducted by four directors and a president; that two directors and the president shall form a quorum for transacting all the business of the company.

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In the fifth section, it is provided that the president and directors shall have full power to use, employ, and dispose of the funds and property of the company for the interest and benefit of the stockholders, and agreeably to the objects of the said act of incorporation.

The president of the company has, as such, no power to bind the company by contract; he may be authorized to act as the *special agent* of the company in some particular case, or *generally* in the performance of some prescribed duties. His power as agent of the company cannot be without scope or limit. An act of the board authorizing the president to act as *universal agent*, with unlimited authority to act for and dispose of the property of the company, would be a violation of the charter, and void.

If it be assumed that Mr. Gunton made with the plaintiffs the contract set out in the declaration, he acted, in doing so, as the president or agent of the company, and within some supposed limits. If the act done was within the scope of his authority, the company was bound by it. If, however, the act done was not within the scope of his authority, then the company was not bound by it.

It is not contended that third persons are to be affected by the private restrictions which a principal may impose on his agent. It is conceded, that whenever the act is within the scope of the agent's authority, the principal is bound. Story on the Law of Agency, sec. 127.

In the instruction which the court refused, they were asked to say to the jury, that if they believed, from the evidence, that Mr. Gunton, in making the said contract, did not act within the scope of his authority as such president, and that the said contract was never authorized or sanctioned by the board of directors, then the same was void as respects the defendants.

In refusing this instruction, the court left the jury to understand that the contract was binding on the defendants, notwithstanding it was not within the scope of Mr. Gunton's authority as president, and so agent of the company,

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to make it ; and the same had never been authorized or sanctioned by the board of directors.

This ruling on the part of the court, as the subsequent modification shows, had its basis in an opinion held by them, that the defendants, having had the use of the machine, if they were benefited thereby, were, at all events, bound to pay for it.

The subsequent granting of this instruction, with the modification attached to it by the court, magnified the error of their first refusal.

The plain and fair construction of the whole is this : That if the jury believe Mr. Gunton, in making said contract, acted beyond the scope of his authority as president of the company, and that the contract was never authorized or sanctioned by the board of directors, the contract was void ; yet, if he, being the president of the defendants' company, and acting as their general agent, did make the said contract, even if he did exceed his authority, and the plaintiffs, under said contract, put their machine on the defendants' boat, and it was used by the defendants, and was beneficial to them, then the plaintiffs are entitled to recover under the special count in the declaration ; that is, they are entitled to recover for the beneficial use on the first or special count in the declaration.

One of the terms of the contract, as set out in the declaration, is that the whole of the value of the savings which should be effected by the plaintiffs' machine over the old throttle cut-off, should be applied to pay for the cost of the machine, &c., and after that three-fourths of the savings thus effected should be paid to the plaintiff, and the amount was to be ascertained in a certain way.

The instructions given by the court to the jury do not limit the right of the plaintiffs to recover according to the terms of their alleged agreement, but they affirm their right to recover, if the jury believed the machine was used, and was beneficial to the plaintiffs. The court say they may recover for the beneficial use, and that under the special contract. The jury are not told that the beneficial use of

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the plaintiffs' machine must, in their judgment, exceed that of the old throttle cut-off. It is sufficient, in the judgment of the court, that the defendants had used the machine, and that that use was beneficial, to authorize the plaintiffs to recover to the extent of the value of such use.

If the ruling of the court had been, that if the jury believed that Mr. Gunton, in making the contract, exceeded his authority, and therefore that the contract was void as against the defendants, in the absence of any contract binding the defendants, the plaintiffs might recover under the common count, if they believed the defendants used the plaintiffs' machine, and it was beneficial to them, there would have been no error in their instruction; but such is not the ruling of the court. They say, that if the machine was put on the boat under the special contract, and was used by the defendants and proved beneficial, the plaintiffs may recover the value of such use on the count on that contract.

The following authorities were relied on: *Bank of Columbia v. Patterson's Administrator*, 7 Cranch, 306; *Head and Amory v. Providence Insurance Co.*, 2 Cranch, 127; *Fleckner v. Bank of United States*, 8 Wheat. 338; *Bank of United States v. Dandridge*, 12 Wheat. 64.

The counsel for the defendants in error, with respect to the admissibility of the evidence, conceded that the evidence was not admissible under the first count in the declaration, and that it was not offered as applicable to that count, but contended that it was clearly admissible under the second count. The propriety of joining a count on the special agreement with a common count cannot be doubted. It is the usual and proper course. Arch. Civ. Pl. 174.

Where there is a special agreement, the rules are—

1st. So long as the contract is executory, to declare specially; when executed, and the payment is to be in money, the general counts may be used. *Streeter v. Horlock*, 1 Bing. 34, 37; *Study v. Sanders*, 5 Barn. & Cres. 628; *Tuttle v. Mayo*, 7 Johns. 132; *Robertson v. Lynch*, 18 Johns. 451.

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2d. Where the contract has been partly performed, and has been abandoned by mutual consent, or rescinded by some act of defendant, plaintiff may use the common counts. *Robson v. Godfrey*, 1 Stark. 275.

3d. Where work has been done under a special agreement, but not in the time or manner stipulated, has been accepted by and is beneficial to defendants, the common counts may be resorted to. *Keck's Case*, Bull. N. P. 139 ; *Burn v. Miller*, 4 Taunt. 745 ; *Streeter v. Horlock*, 1 Bing. 34 ; *Jewell v. Schroepfel*, 4 Cow. 564 ; *Taft v. Montague*, 14 Mass. 282.

These are general principles now universally admitted.

But it is supposed the plaintiffs were bound to waive or abandon their first count before they could resort to the common count. Is this so ?

It was contested, and they had a right to give evidence as to both. They were both good counts. It was competent for them to have the verdict entered on whichever count they pleased, or the court might have instructed the jury at the instance of either party. If the contract had been admitted, the case would have been different. Here the whole matter was *in pais*, and the court was right in admitting the evidence.

As to the first prayer.

The rules already presented furnish a conclusive answer to this. If the machine was placed on the boat under the agreement assumed by this prayer, it is still quite clear the plaintiffs were entitled to compensation for the time it was used by the defendants, if it was beneficial to them, although they should not have agreed on the terms.

It proceeds on the hypothesis that the plaintiffs would place the machine on the boat at their own expense, and for their own benefit ; and if, on trial, it should be approved of by the defendants, and they should desire to purchase it, the terms of such purchase should be afterward determined on between the parties ; but if it should not be approved, or the terms proposed by said Cook for the use of the same should be such that defendants could not accede thereto, plaintiffs should remove it at their own expense, and re-

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place the boat in as good condition as before. This is, however, but a partial statement of the evidence. It was approved of. The defendants conferred with Cook about the price, and he said they should have the use of the machine on as favorable terms as the same had been disposed of to the *Augusta*, or any other steamboat ; but he did not state what those terms were.

The *Augusta* was a boat running in the same waters ; the *Osceola* was another. The means of ascertaining the price were within the reach of defendants. The defendants understood this to be a distinct and binding offer. They did not reject it ; but continued to use the machine after these terms were proposed.

It was a contract of sale or use. The plaintiffs had done their part, executed the contract, and the payment was to be made in money. They might resort to the common count. See cases under the first rule above. They gave evidence to show the terms on which the *Osceola* had it. This was the measure of the sum which they could recover on the common count. It was competent for defendants to have proved that the terms with the *Augusta* were more favorable, if they had chosen to do so. But the court was asked to say they could not recover at all in this action, rejecting the second count altogether.

As to the fourth exception.

The instruction assumes that the defendants' president must have been authorized by a board or quorum of the directors, or his act sanctioned and approved by such board or quorum, to make it binding on the company.

It admits the making of the contract. It was a contract eminently beneficial to the company, saving more than one-third of the fuel. It was made by the general agent of the company in the ordinary discharge of his duties. They were bound to know its terms. If they chose to avail themselves of the benefits without inquiring into those terms, or if they believed, from the report of their said agent, that he had made a different contract, they are still bound by the contract which he did make. *Bank of Columbia v. Patter-*

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son's Adm., 7 Cranch, 299 ; Mechanics' Bank v. Bank of Columbia, 5 Wheat. 326 ; Fleckner v. Bank of United States, 8 Wheat. 338 ; Bank of United States v. Dandridge, 12 Wheat. 64 ; Bank of Metropolis v. Guttschlick, 14 Pet. 27.

Mr. Justice GRIER delivered the opinion of the court.

Sickles and Cook, plaintiffs below, filed their declaration in assumpsit, containing two counts.

The first sets forth a parol contract made with William Gunton, president of the steamboat company and general agent thereof, in which it was agreed that the plaintiffs should construct and place on board the steamboat *Columbia* a certain machine, invented by Sickles, called a "cut-off," at their own cost ; that the machine should be tried, and if it was found to produce any saving of fuel, that the cost of putting it in operation, not exceeding two hundred and fifty dollars, should be first paid out of the savings of fuel effected by the machine ; that the machine should be used by the defendants during the continuance of the patent, if the boat should last so long ; and after paying for its erection, the savings caused thereby in the consumption of fuel should be divided between the plaintiffs and defendants, in the proportion of one-fourth to defendants and three-fourths to plaintiffs. The mode of ascertaining the amount of saving is specially set forth ; and the plaintiffs aver that they erected their cut-off on said steamboat, at the cost of \$242, on the 9th of November, 1844, and that it was afterward ascertained, in the mode agreed upon, that the saving of fuel caused by using plaintiffs' cut-off exceeded that of the "throttle cut-off," before used by defendants, by $34\frac{1}{3}$ per cent. ; and that the amount saved over and above the price of erection when this suit was brought was \$2,500. For the amount of the \$242, and three-fourths of the latter sum, this suit is brought.

There is a second count, for putting the machine on the boat at request of defendants, with a *quantum meruit*.

On the trial of the cause below, evidence was given tending to prove the special contract as laid in the first count,

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and that the experiment to test the value had been made in the manner agreed upon, with the result as stated in the declaration. The plaintiffs then offered to show experiments made by practical engineers on other boats, and the result thereof, with the opinion of the said engineers as to the value of their cut-off. This evidence was objected to, and its admission is the subject of the first bill of exceptions, sealed at request of defendants.

The objection to this evidence is, that the mode of ascertaining the value of plaintiffs' cut-off is specially stated in the declaration, and no other could be resorted to. But we think that, even if there were no other count in the declaration than that on the special contract, this objection cannot be sustained. The plaintiffs had given in evidence the experiment made in pursuance of their alleged agreement, and as this testimony tended only to corroborate it, and not to contradict it, or enlarge the claim of the plaintiffs beyond that ascertained by the experiment made by the parties, it cannot be said to be irrelevant or incompetent—at most, it could only be said to be superfluous. But assuming that it was irrelevant on the first count, it is clearly not so as regards the common count on a *quantum meruit*. The plaintiffs had an undoubted right to give evidence which might enable them to recover on the latter count, in case the defendants should succeed in establishing their plea of *non assumpsit* as to the first. In this view of the case, the competency and relevancy of the testimony cannot be doubted.

To support the issue on their part, the defendants then called William Gunton, the late president of the company, who wholly denied that he made such a contract as that declared on by plaintiffs, and stated that plaintiffs expressed to him a desire to bring their "cut-off" to the favorable notice of the government, with a view of introducing it on board the national steamships; that he gave them leave to erect their machine on the boat at their own expense, and agreed that if, on trial, the machine should be approved by the defendants, they would purchase it, on terms to be after-

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ward agreed upon ; but if not approved, or the terms of purchase offered by plaintiffs should be such as defendants would not accept, then plaintiffs should have leave to take off their machine at their own expense ; that afterward, when the plaintiffs' terms were asked, they said defendants should have the machine on the same terms as the steam-boat *Augusta*, and other boats, but would not then, or at any other time, state definitely what those terms were, or what price the *Augusta* had given, or the plaintiffs would be willing to take, so that it could be laid before the company for their approval ; that defendants had never refused permission to plaintiffs to take away the machine from the boat, if they so desired to do. Certain letters were also given in evidence, the contents of which it is not necessary to state, in order to understand the instructions given to the jury, which are now the subject of exception.

Four several bills of exception have been taken to the refusal of the court to give four items of instruction of the jury. Two of these only are relied on here. The first may be briefly stated thus : That if the jury believed the testimony of William Gunton, and that the contract between the parties was such as he stated, defendants were entitled to a verdict. This instruction was refused by a divided court.

We are of opinion that the defendants were clearly entitled to have this instruction given to the jury, as the testimony, if believed by them, fully supported the defendants' plea, and showed that the plaintiffs were not entitled to recover on either count in their declaration. They could not recover on the first count, for this testimony showed that there was no such contract between the parties as that set forth in it ; nor on the count on a *quantum meruit* for the use of the machine, for that would be a repudiation of the contract as proved. If the plaintiffs put their machine on board of defendants' boat for the purpose of experiment, on an agreement that defendants should pay for it if, on trial, they approved it, and were willing to give the price asked, otherwise the plaintiffs should have leave to take it

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away, it certainly needs no argument to show that, without stating their terms, or offering to fulfil their contract by a sale of the machine, the plaintiffs cannot repudiate it and sue for the use of the machine. This would be a palpable fraud on the defendants.

The only other exception urged to the charge of the court below is in the answer given by the court to the fourth instruction prayed, which is as follows :

“ If, from the evidence, the jury shall find that William Gunton, the president of the defendants’ company, and acting as their general agent, made with the plaintiffs the contract set out in the first count of the said declaration, and that the plaintiffs, under the said contract, put the said machine on the defendants’ boat, and the same was used by the defendants at the time and times mentioned in the said count, and that the same was beneficial to the defendants, then the plaintiffs are entitled to recover on the said first count, notwithstanding the jury shall find that the terms of the said contract were not communicated to the defendants, and the said William Gunton reported to the said defendants a different contract.”

We find no fault with this instruction, so far as it states the liability of defendants for the acts of Gunton as their general agent, whether he reported his agreement to the defendants or not. If he was their general agent, and had power to make such contract, his failure to communicate it to his principals cannot affect the case. But we are of opinion that the court erred in stating that the plaintiffs had a right to recover on their special count, if the machine was useful to the defendants, without regarding the stipulations of said contract as laid and proved, and the fact that the plaintiffs had refused to rescind it, and had expressed their determination to adhere to it and “ to bring an action *every week* to recover the amount of saving on the terms of the contract.”

If the plaintiffs had complied with the request of the president of the company, in a letter addressed to them on the 14th of April, 1841, after the dispute about the nature of

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the contract had arisen, and taken their cut-off from the boat, and thus put an end to the contract, the instructions given by the court would have been undoubtedly correct. But as the record shows that the plaintiffs have refused to annul the contract, a very important question arises—whether this action, and five hundred others which the plaintiffs have expressed their determination to continue to institute, can be supported on this *one* contract. By the contract as proved and declared on, the defendants, after the machine has been erected on their boat, are to continue to use it “during the continuance of the patent,” if the boat should last so long. The compensation to be paid by the defendants is to be measured by the amount of saving of fuel which the machine shall effect. The mode of ascertaining this saving is pointed out, and the ratio in which it is to be divided. The first \$250 saved are all to go to the plaintiffs, and three-fourths of all the balance. But the contract is wholly silent as to the time when any account shall be rendered or payments made. The defendants have not agreed to pay by the trip, or settle their account every day, or week, or year, or at the end of $27\frac{1}{2}$ weeks, the time for which this suit is instituted. The agreement on the part of the plaintiffs is, that the defendants shall use their machine for a certain time, in consideration of which defendants are to pay a certain sum of money. It is true, the exact sum is not stated; but the mode of rendering it certain is fully set forth. It is one entire contract, which cannot be divided into a thousand, as the plaintiffs imagine. If the defendants had agreed to pay by instalments at the end of every week, or twenty-seven weeks, doubtless the plaintiffs could have sustained an action for the breach of each promise, as the breaches successively occurred. But it is a well-settled principle of law, that “unless there be some express stipulation to the contrary, whenever an entire sum is to be paid for the entire work, the performance or service is a condition precedent; being one consideration and one debt, it cannot be divided.” It was error, therefore, to instruct the jury that the plaintiffs were entitled to

Notes and Citations.

recover on the first count, if their machine was used by the defendants, and was beneficial to them, without regard to the fact of the rescission, or continuance, or fulfilment of the contract on the part of the plaintiffs.

Whether, if there had been a count in the declaration for the \$242, and the jury had believed that the defendants had agreed to pay it as soon as it was earned, the plaintiffs might not recover to that amount, or whether such a construction could be put on the contract as proved, are questions not before us, and on which we therefore give no opinion.

The judgment of the Circuit Court must therefore be reversed.

ORDER. This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the District of Columbia, holden in and for the county of Washington, and was argued by counsel ; on consideration whereof, it is now here ordered and adjudged by this court, that the judgment of the said Circuit Court in this cause be, and the same is hereby, reversed with costs, and that this cause be, and the same is hereby, remanded to the said Circuit Court, with directions to award a *venire facias de novo*.

Patent in suit :

No. 4199. Sickles, F. E. September 19, 1845. Steam Engine. Reissue No. 910. February 21, 1860. Reissue No. 1113. January 1, 1861. Reissue No. 1260. January 21, 1862.

OTHER SUITS ON SAME PATENT :

Sickels v. Borden, 1856. 3 Blatch. 535.
Sickels v. Borden, 1857. 4 Blatch. 14.
Sickels v. Mitchell, 1857. 3 Blatch. 548.
Sickels v. Tileston, 1857. 4 Blatch. 109.

Notes and Citations.

Sickels v. Falls Co., 1861. 4 Blatch. 508 ; 2 Fish. 202.

Sickles v. Evans, 1863. 2 Cliff. 203 ; 2 Fish. 417.

Syllabus.

CHARLES J. GAYLER AND LEONARD BROWN, PLAINTIFFS IN ERROR, v. BENJAMIN G. WILDER.

10 How. 477—509. Dec., 1850.

[Bk. 13, L. ed. 504 ; 1 Whit. 576 ; Fish. Pat. Rep. 497.]

Same case, 10 How. 509 [p. 236, *post*].

Assignment prior to issue. License. Prior knowledge and use.
Lost arts.

1. The inventor of a new and useful improvement has no exclusive right to it until he obtains a patent, but is vested by law with an inchoate right thereto, which he may perfect and make absolute by proceeding according to law (p. 208).
2. When a party has acquired an inchoate right to a patent, and the power to make that right perfect and absolute at his pleasure, the assignment of his whole interest, executed before the patent issued, was held to inure to the benefit of his assignees within the provisions of Act 1836, § 11, as if executed after its issue (p. 209).
3. Assignment of an entire interest or of an undivided part under Act 1836, § 11, considered (p. 210).
4. An exclusive territorial assignee under Act 1836, § 14, may bring suit for infringement in his own name. Anything short of this is a license upon which patentee alone can maintain an action (p. 210).
5. An agreement granting an exclusive right to make and vend a safe within a limited territory, grantee to pay monthly for weight sold, but grantor reserving right to manufacture and sell within the territory specified, and to pay grantee for weight sold, construed to be a license and not an assignment of an undivided interest in the whole patent, and licensee cannot sue (p. 211).
6. If the inventor of a prior invention has not made his discovery public, but has used it simply for his own private purpose, and it has been finally forgotten and abandoned, it is not the prior

Statement of the case.

- knowledge or use of the invention or discovery by others, Act 1836, § 6, which will defeat a patent for the same thing of a subsequent inventor (p. 211).
7. The prior knowledge and use of an invention required to defeat a subsequent patent for the same thing under Act 1836, § 6, is a knowledge and use existing in a manner accessible to the public (p. 212).
 8. Lost arts fall within the same rule (p. 214).

[Citations in the opinion of the Court:]

- (1) *Herbert v. Adams*, 4 Mason, 15, p. 209.
- (2) *Blanchard v. Eldridge*, Wall Jr., 837, p. 211.
- (3) *Donaldson v. Becket*, p. 222.
- (4) *Miller v. Taylor*, 4 Burrow, 2305, p. 222.

THIS was a writ of error to the Circuit Court of the United States for the Southern District of New York.

The defendant in error, who was plaintiff in the court below, brought an action against Gayler and Brown, the plaintiffs in error, for an alleged infringement of a patent-right for the use of plaster of Paris in the construction of fire-proof chests.

In the declaration, it was averred that one Daniel Fitzgerald was the original and first inventor of a new and useful improvement in fire-proof chests or safes, and that letters patent were granted him therefor, bearing date the 1st day of June, 1843. The patent was in the usual form, and was set out in the declaration, the specification annexed to which was as follows :

“To all whom it may concern: Be it known, that I, Daniel Fitzgerald, of the city, county, and State of New York, and a citizen of the United States, have discovered and made an improvement, new and useful, in the construction of iron chests or safes, intended to resist the action of fire, and for the safe-keeping and preserving books and papers, and other valuables, from destruction by fire, which I call a Salamander safe or chest.

“The following is a full and exact description of the safe or chest, with my improvement combined therewith :

Statement of the case.

"I make two iron chests, in the common and ordinary way of making iron chests, which is well known to those engaged in this branch of business, one smaller than the other, which, when the safe is put together, forms the inner chest, or inner part of the safe. The other chest is made about three inches larger than the inner one, and so as, when put together, it will form the outer part or crust of the safe, and leave a space between the inner and outer chests of the safe of about three inches, which space may vary a little, more or less, when the chests are put together, but should be the same all round and in every direction. The inner and outer doors, where two doors are used, are prepared in the same way, leaving a space, as above, between the inner and outer crust of each door, which space is left for a like purpose with that left between the inner and outer chest of the safe. Where one door is used, it should be made in the same manner, leaving a like space between the inner and outer crust or face of the door, and for a like purpose, and should be fitted to the chest or safe with great accuracy. The edges and openings for the doors are to be neatly finished, as in other chests. I then take plaster of Paris or gypsum, and, having boiled it or baked it in an oven, and calcined it, and reduced it to a powder, I mix it with water till it is about the consistency of cream or thin paste, so fluid as that it may readily be poured into the space left as above to receive it, and I then fill all the space with the plaster of Paris, putting in some sheets of mica between the inner and outer chest, to aid, if necessary, in checking the progress of the heat.

"But where pains are taken to have all the space left for the purpose properly filled with the plaster of Paris, as above, so that when set it will expand and adhere firmly to the surrounding parts, and completely fill the whole space, and all the cracks and joints, the mica may be dispensed with, and every other substance, and the plaster may be used alone. It may also be reduced to a powder, without being prepared as above, and used in that state; but I have not found it as good.

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"The inner case or chest may be made of wood instead of iron, as for a bookcase, and if the space left between that and the outer chest be filled in the manner and with the materials above named, it will make a very durable safe, that will effectually resist the fire, as I have found by experience; but the safe may not be so strong or durable, though somewhat cheaper.

"The above composition or preparation of gypsum may be mixed with several other articles not contrary to its nature, with a view to increase its efficacy in resisting the action of fire; but, from my experience, I doubt if they have much effect. The gypsum alone, when properly prepared and properly placed in the space left to receive it, and made to fill it completely, is quite sufficient to resist, for a long space of time, the most intense heat. The chemical properties of this article are such, that, by the application of intense heat, it imparts a vapor or gas, or some other properties, which effectually stay the progress of the fire, and arrest the influence and effects of the heat. This I have ascertained by various experiments; and I believe I am the first man that discovered the utility and devised the method of applying gypsum, or plaster of Paris, to increase the safety of an iron chest. I am not aware that this article was ever used for the purposes above set forth, until I used it in the manner above described.

"I therefore claim, as my discovery and invention and improvement, the application and use of plaster of Paris, or gypsum, in its raw state, or prepared as above, either alone or with mica, in the construction of all iron chests or safes, in the manner above described, or in any other manner substantially the same.

"DANIEL FITZGERALD.

"Witnesses: G. H. PATTERSON, BEVERLEY R. HENSON, JR."

It was also averred in the declaration, that before the date of said letters patent, to wit, on the 7th day of April, 1839, the said Daniel Fitzgerald made an assignment, which

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was duly recorded in the Patent Office of the United States, on the 1st day of June, 1839, as follows :

“ Whereas I, Daniel Fitzgerald, of the city, county, and State of New York, have invented certain improvements in safes, which invention I call the ‘Salamander safe,’ for which I am about to make application for letters patent of the United States ; and whereas E. Wilder, of New York aforesaid, has agreed to purchase from me all right and title and interest which I have, or may have, in and to the said invention, in consequence of the grant of letters patent therefor, and has paid to me, the said Fitzgerald, the sum of five thousand dollars, the receipt whereof is hereby acknowledged :

“ Now, this indenture witnesseth, that, for and in consideration of the said sum to me paid, I have assigned and transferred to E. Wilder aforesaid the full and exclusive right to all the improvements made by me, as fully set forth and described in the specification which I have prepared and executed preparatory to obtaining letters patent therefor. And I hereby authorize and request the Commissioner of Patents to issue the said letters patent to the said E. Wilder and his legal representatives.

“ In testimony whereof, I have hereunto set my hand and affixed my seal, this 11th day of April, 1839.

“ DANIEL FITZGERALD. [SEAL.]

“ Witnesses : OWEN G. WARREN, CHARLES H. FOSTER.”

The declaration then proceeded as follows :

“ And the said plaintiff further saith, that the said Enos Wilder, in his lifetime, after the making of the said assignment by the said Daniel Fitzgerald to the said Enos Wilder as aforementioned, and before the committing of the several grievances hereinafter mentioned, to wit, on the 1st day of September, in the year of our Lord 1843, and within the Southern District of New York aforesaid, did execute a certain instrument or agreement to the said plaintiff, whereby the said Enos Wilder, in consideration of the

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agreement made with the said plaintiff, and of one dollar to him, the said Enos Wilder, in hand paid by the said plaintiff, bargained, sold, conveyed, and assigned to the said plaintiff all the right, title, and interest of him, the said Enos Wilder, in and unto the patent granted to the said Daniel Fitzgerald for an improvement in fire-proof safes and chests, by the use of prepared gypsum, dated June 1, 1843; and of which patent he, the said Enos Wilder, was the sole owner and assignee, as will appear by the records of the Patent Office; and which patent he, the said Enos Wilder, had good right to sell and convey to the said plaintiff, to be by him, the said plaintiff, held as his own property, free from all claims from the said Enos Wilder, or any one claiming under him, the said Enos Wilder, as by the said instrument or agreement, sealed with the seal of the said Enos Wilder, ready in court to be produced, will, reference thereunto being had, fully and at large appear."

This last-mentioned instrument was averred to have been recorded in the Patent Office of the United States on the 10th day of October, 1843.

It was then averred, that, by virtue of the last-mentioned instrument, plaintiff became, and ever since hath been, sole owner of said improvement, &c., yet, the defendants well knowing, &c.

The defendants pleaded the general issue, and gave notice that they would offer evidence that Daniel Fitzgerald was not the first and original inventor of the improvement patented.

The bill of exceptions was as follows :

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Be it remembered, that, on the trial of the aforesaid issue, the plaintiff, to maintain the same, after having read said patent in evidence as set forth in the declaration, read the following conveyance and agreement, which was duly recorded, and a copy of which was, at the date of said patent, indorsed on the same, viz. :

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[Here was inserted the conveyance from Fitzgerald to Enos Wilder of the 11th of April, 1839, already set out in full in the declaration.]

And thereupon the defendants insisted that said instrument did not convey the legal title of said patent to the said Enos Wilder, and that, upon such conveyance, he could not have brought a suit on the same ; but said court decided that said instrument operated to convey the interest in said patent to said Enos Wilder, so that during his life he could have maintained an action at law on the same—to which opinion of said court the counsel for the defendants then and there excepted.

First Exception.—And the plaintiff then read the conveyance from said Enos Wilder to him, as stated in his said declaration, which he insisted made out a right in him to sustain his aforesaid action ; but the defendants, to show that, after the date of the conveyance to the plaintiff, and before he commenced this action, he made, executed, and delivered to Silas C. Herring, Esq., the following agreement and conveyance, namely :

“ Benjamin G. Wilder agrees with Silas C. Herring to grant to him the sole and exclusive right to make the safe called the Salamander safe, according to the terms and upon the plan pointed out and described in the patent and specification of Daniel Fitzgerald, which patent is dated June 1, 1843, and was assigned to Enos Wilder, and by him to Benjamin G. Wilder, who now owns the same ; and this license is to be for the city, county, and State of New York ; and said Herring is to have and enjoy the full and exclusive right to make and vend said safes in the city, county, and State of New York, and nowhere else ; the said Herring is to have the same for the residue of the unexpired term of said patent, with all the improvements which may be made in the manufacture of said safes which said B. G. Wilder may have a right to use during said term ; and said Herring agrees that said Wilder may use all the improvements which he may make, or have a right to use, during said term. In

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consideration whereof, said Herring agrees with said Benjamin G. Wilder to pay to him, for the use of the right aforesaid, one cent a pound for each and every pound said safes may weigh when finished and sold, which sum is to be paid monthly so long as said patent remains in full force, and until the same has been set aside by the highest court of the United States to which the same may be carried ; but said Herring agrees to pay the one cent a pound for the space of two years, at all events, and whether said patent shall be declared good or not. If sustained, then said Herring is to pay as aforesaid for the full term as aforesaid. All the safes so made and sold by said Herring are to have said Wilder's patent marked thereon, the same as heretofore, in a plate or cast in letters, 'Wilder's patent safe.' Said Herring agrees to keep an accurate account of all the safes by him made, or caused to be made, under said contract and patent, with the weight of each when sold, and the names of the persons to whom sold, and their places of abode, and to render said account monthly, if so often called on for it, and to pay accordingly. Said Herring is to manufacture all the safes he may sell, or offer to sell, under and according to said patent, with such improvements as he may have a right to use, and be marked as above with the words, in large, legible letters, 'Wilder's patent safe.' Said Wilder reserves to himself the right to manufacture, in this city and State of New York, or elsewhere, safes to sell out of this State and city ; but if sold within this State or city, then said Wilder is to pay said Herring one cent a pound on each safe so made and sold within this city or State. Said Wilder is not himself to set up or establish, nor authorize any one else to set up and establish, any manufactory or works for making Salamander safes, or safes similar to said Salamander safes, at any place within fifty miles of this city. Said Herring is to make all safes like Wilder's, and not vary in any substantial part therefrom, with such improvements as may be added.

"In presence of S. P. Staples, witness to both signatures,

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“NEW YORK, *January 6, 1844.*

“If said patent should not be decided to be good till the end of three years, then for the time over the two years, till decided good, said Herring pays nothing. It is further understood and agreed, that all safes made by said Herring, or in the making of which, or the selling thereof, he shall in any way be directly or indirectly concerned, consisting of a double case or box, with the intermediate space filled with plaster or any non-conducting substance, shall be considered within this agreement, and be paid accordingly.

“B. G. WILDER.

“SILAS C. HERRING.

“(Received and recorded 30th January, 1844.)”

Second Exception.—And thereupon the defendants insisted that the plaintiff had parted with all his interest in said patent by virtue of said agreement, so that he could not sustain his aforesaid action. But said court decided that the plaintiff had not, in and by said agreement, so far parted with his interest in said patent as to deprive him of the right to sustain his aforesaid action—to which opinion of said court the defendants did then and there except.

Third Exception.—And the defendants then and there objected, that the invention and improvement set forth and claimed in said patent as the invention of the patentee, was not the subject of a patent; that it was the mere application of an old, well-known material to a new purpose, which they insisted could not be the subject of a patent. But said court overruled said objection, and instructed the jury as herein set forth—to which, as well as to the said instructions to said jury, the defendants excepted.

And the plaintiff, to maintain his aforesaid issue, called sundry witnesses to prove, and claimed that he had proved, that he made the discovery which was the foundation of his invention and improvement as early as some time in the year 1830; that he made experiments in various ways, to test the utility of his discovery and improvement, at differ-

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ent times, in the different years from 1830 to 1836, when he applied for his patent ; and that he pursued with due diligence that application until he obtained his aforesaid patent ; and that the delay which had arisen in obtaining said patent was not caused by the fault or negligence of the patentee, or his assignee, Enos Wilder, nor any one else, but arose from the burning of the Patent Office, and other causes not under the control of the applicants for the patent ; and that the defendants had infringed said patent, as set forth in said declaration.

And the defendants introduced evidence to prove, and claimed that they had proved, that said Daniel Fitzgerald was not the first and original inventor of what he claimed in said patent as his improvement. Among other witnesses, James Conner testified, that, between 1829 and 1832, he was engaged in business as a stereotype founder, and, knowing that plaster of Paris was a non-conductor of heat, he constructed a safe with a double chest, and filled the space between the inner and outer one with plaster of Paris,—the same, substantially, as testified to and claimed by Fitzgerald, except there was no plaster used on the top of the safe. It was made for his own private use in his establishment, and was used by him as a safe from the time it was made till 1838, when it passed into other hands. It was kept in his counting-room while he used it, and known to the persons working in the foundry.

This testimony was confirmed by his brother, John Conner, except that he fixes the time of constructing the safe in the year 1831 or 1832. But one safe was made by Conner, and since it passed out of his hands he has used others of a different construction.

The defendants also claimed, that if said Daniel Fitzgerald was the first and original inventor of said improvement, as he claimed, yet that he had made said iron safes, and sold them, under such circumstances as that he had thereby abandoned the same, and suffered the same to go into public use in such manner as to lose all right to said invention and improvement, if any he ever had.

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And the court thereupon instructed the jury, that if they found that Daniel Fitzgerald, the patentee, was the first and original inventor of the said improvement claimed in said patent, and that the use of plaster of Paris, in combination with and in the construction of an iron safe, is new and useful, as in the specification of said patent is set forth and claimed, then they would find that the patent was valid, and protected the invention and improvement as claimed, unless the plaintiff, or those under whom he claimed, had abandoned said improvement to the public, and suffered the same to go into public use before the application for said patent, of which facts the jurors were the judges.

And said court further instructed said jury, that if they found that the use made by James Conner of plaster of Paris was confined to a single iron chest, made for his own private use, after said Fitzgerald's discovery and experiments, then it was not in the way of Fitzgerald's patent, and the same was valid; but if the jury found that said James Conner made his said safe, as claimed, and tested it by experiments before Fitzgerald's invention and improvement, and before he tested the same, then said Fitzgerald was not the first inventor, as claimed, and was not entitled to said patent.

The court further charged, that, independently of these considerations, there was another view of the case, as it respected the Conner safe: that it was a question whether the use of it by him had been such as would prevent another inventor from taking out a patent; that if Conner had not made his discovery public, but had used it simply for his own private purpose, and it had been finally forgotten or abandoned, such a discovery and use would be no obstacle to the taking out of a patent by Fitzgerald, or those claiming under him, if he be an original, though not the first, inventor or discoverer of the improvement.

Fourth Exception.—And said court, in summing up said case to said jury, further instructed them, that if they found that Daniel Fitzgerald was the first and original in-

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ventor of said improvement, as set forth in said patent, and had not abandoned or dedicated the same to the public, but had, with reasonable diligence, pursued his invention till he had perfected the same, and used due diligence in applying for and in pursuing his application for a patent, until he obtained the same, and if they found the defendants had made and sold safes, as charged in the plaintiff's declaration, then they would find their verdict for the plaintiff for such actual damages as they judged just and reasonable; but if they found otherwise, then they would find for the defendants. To each and all of these instructions given to the jury, the counsel for the defendants excepted.

And forasmuch as the facts aforesaid, and the decisions of the court thereon, do not appear of record, the defendants pray that this their bill of exceptions may be allowed.

Filed 23d February, 1848.

S. NELSON. [SEAL.]

The cause was argued by *Mr. Cuyler*, for the plaintiffs in error, and by *Mr. Staples* and *Mr. Webster*, for the defendant in error.

Mr. Cuyler, for plaintiffs in error.

1. The second error assigned is, that the learned judge erred in ruling that the conveyance of April 11, 1839, by Fitzgerald to Enos Wilder, of the invention for which he was about to seek a patent, operated to convey said patent to Enos Wilder, so that in his lifetime he could have maintained thereon an action in his own name.

This conveyance is dated April 11, 1839. The patent did not issue until 1843, and then it issued to Fitzgerald, the inventor, and not to Enos Wilder, the transferee.

It will be readily conceded that the right of an assignee to sue in his own name must, if it exist, be *statutory*. But no section of any Patent Law in force bestows this right upon the assignee of an improvement about to be patented, such as was Enos Wilder.

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The act of 1793 says every "*invention*" shall be assignable. The eleventh section of the act of 1836 provides that "every patent shall be assignable in law," &c. It speaks of the "exclusive right under any patent," and of "the thing patented." Yet here there was no patent. The assignment is of an improvement intended to be patented. The patent did not exist until four years afterward, and then it issued to the inventor, and not to the assignee of the improvement.

The sixth section of the act of 1837 provides for this very case, by permitting the issuing of the patent, in such cases, directly to the assignee of the improvement. Which should have been, but was not, done in this instance.

As no statute, therefore, creates a right in the assignee of an unpatented improvement to sue in his own name, it is submitted that Enos Wilder was an equitable, but not a legal, holder of the title to this patent, and that the learned judge erred in his ruling on this point.

2. The third error assigned is, "that the learned judge erred in ruling that the agreement of B. G. Wilder and Silas C. Herring, dated January 6, 1844, did not divest the said B. G. Wilder of all his interest in the patent, so far as the State of New York was concerned, and that the plaintiff could thereafter maintain his action."

By its terms, it expressly divests the plaintiff, for the remainder of the time of the patent, of all interest in said patent, so far as the city, county, and State of New York are concerned, and imposes upon the plaintiff a penalty to prevent the exercise of any rights by him under said patent in that State.

How, then, can damage be alleged, where the right said to be invaded has no existence? Or, rather, how can the plaintiff suffer damage by the invasion of a right, the whole property in which has been passed by him to another?

The hardship of this doctrine will be more apparent, when it is considered, that if the plaintiff recover, the defendants will not be thereby exonerated from liability to

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Herring, the local assignee, but may be held accountable to him, and thus be compelled to pay these very damages a second time to another party.

There can be no damage without an injury done to some right possessed by the plaintiff. But here the plaintiff possesses no right. How, then, can he be damaged?

By this agreement, the advantages and profits of the patent in the city and State of New York are the property of Herring; and yet, if the plaintiff recover damages in this action, he will indirectly take to himself those profits, and thus contravene his own agreement. *Herbert v. Adams*, 4 Mason, 15; *Park v. Little*, 3 Wash. C. C. 196, 197.

3. The fifth and sixth errors assigned have relation to the instruction given by the learned judge with regard to the Conner safe.

It is submitted that, by the requirements of the Patent Law, the patentee must be not only *an* original inventor, but *the* original inventor, and that the patent will in all cases be defeated by proof of a prior invention.

It is especially urged, that even if the doctrine of the learned judge, in his charge, were correct, it is inapplicable to a case where the invention had been for eight years in open, notorious public use by the prior inventor at his counting-house, accessible to those in his employ, and then, at the expiration of eight years, and still before even an application for plaintiff's patent had been made, had passed into the possession of others.

It is submitted that this is not such a use as leaves it in any respect "a question whether the use made by Conner of the safe constructed by him had been such as would prevent another from taking out a patent."

The Patent Law of 1836, sec. 6, gives its privileges to an inventor whose invention was "not known or used by others before his discovery."

It exacts an oath from an inventor to this effect.

This safe, if Conner's invention be prior, was both known and used before; and nowhere in the act can there be found

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any qualifying words upon such knowledge or use, or any reservation of circumstances, under which prior knowledge and use will not, if proven, defeat a patent.

The following authorities are in point, premising that the language of the Patent Act of 1793, in relation to the novelty of the invention, is the same as that employed in the act of 1836, namely, "not known or used before."

"The plaintiff cannot object to the originality or priority and use of another machine, alleged to have been similar to his own, on the ground that it had gone into disuse, or was not *notoriously* in use; since it is essential to his case to prove he was *the* original inventor of the machine for which he has a patent." *Evans v. Hettich*, 3 Wash. C. C. 408.

Under the sixth section of the Patent Law, if the thing secured by patent had been in use, or had been described in a public work, anterior to the supposed discovery, the patent is void, whether the patentee had a knowledge of this previous use or not. *Evans v. Eaton*, 3 Wheat. 454 [4 Am. & Eng. 16].

If the original inventor of a machine abandons the use of it, and does not take out a patent for it, no other person can entitle himself to a patent for it. *Evans v. Eaton*, 1 Pet. C. C. 323.

In an action for a violation of a patent granted by the United States for an alleged original invention, the plaintiff must satisfy the jury that he was the original inventor, in relation to every part of the world.

Although no proof was made that the patentee knew that the discovery had been made prior to his, still he could not recover if, in fact, he was not the original inventor. *Dawson v. Follen*, 2 Wash. C. C. 311; *Reutgen v. Kanowrs*, 1 Wash. C. C. 168; *Whitney v. Emmett*, 1 Bald. 303. Also, *Curtis on Patents*, sec. 40, note.

The same construction of the act of Congress is given by Judge Story, in *Reed v. Cutter*, 1 Story, 590.

After ruling that the applicant must be not only *an* original inventor, but *the* original inventor, he says:

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“And it is of no consequence whether the invention is extensively known and used, or whether the knowledge and use thereof is limited to a few persons, or even to the first inventor himself, or is kept a secret by him.”

And again: “The language of the Patent Act of 1836, page 357, sec. 6, *not known or used*, &c., does not require that the invention should be known or used by more than one person, but merely indicates that the use should be by some other person than the patentee.”

And again: “The decision in Dolland’s case may be a correct exposition of the English statute of monopolies, (21 James I.,) but is not applicable to the Patent Law of the United States.”

4. But there is another view of the case, from this point, which is entitled to consideration.

It is submitted that, measured by the seventh section of the act of 1839, the construction and use of the Conner safe had been such as necessarily and absolutely to defeat the plaintiff’s patent, and that the learned judge erred in not thus instructing the jury. (Fifth, sixth, and seventh exceptions.)

That section provides—

“That every person or corporation who has, or shall have, purchased or constructed any newly-invented machine, manufacture, or composition of matter, prior to the application by the inventor or discoverer for a patent, shall be held to possess the right to use, and vend to others to be used, the specific machine, manufacture, or composition of matter so made or purchased, without liability therefor to the inventor, or to any other person interested in such invention; and no patent shall be held to be invalid by reason of such purchase, sale, or use prior to the application for a patent as aforesaid, except on proof of abandonment of such invention to the public; or that such purchase, sale, or prior use has been for more than two years prior to such application for a patent.”

In this section, the words “newly-invented machine, manufacture, or composition of matter” have been decided

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by this court to be synonymous with "invention or thing patented." *McClurg v. Kingsland*, 1 Howard, 202 [4 Am. & Eng. 382].

Now, it is the distinct and uncontradicted fact, that in this case the invention or thing patented had been "constructed," and was in use by another, at least eight years before the application for a patent. And yet, by the final clause of the section just quoted, if there is proved such use "two years prior to the application for a patent," such "patent shall be held to be invalid."

It is stated by one witness, that between the years 1829 and 1832, and by another, that in the year 1831 or 1832, Conner made a safe constructed precisely as is the patented safe; that it was used as the safe for his establishment; was kept in his counting-room, and was known to the persons working in his foundry; and so continued to be until 1838, when it passed from Conner's into other hands.

The plaintiff's application for a patent bears date April 11, 1839.

It is submitted, therefore, that this patent cannot be sustained without flatly contravening the clear and express language of the seventh section of the act of 1839, just quoted.

This case is one in which a recovery by the plaintiff below cannot be sustained without imposing great hardships upon the defendants. The patent issued in 1843—more than four years after application for it was made, and more than thirteen years after the applicant had perfected his invention. The very same invention had been made by a stranger at least thirteen, and perhaps fourteen, years before the date of the patent, and had been publicly used by him, with the knowledge of many, for eight years before plaintiff's application for a patent, and had then passed from him into the hands of others.

Such a use for two years, by the seventh section of the act of 1839, defeats a patent.

Added to this, it was in evidence that the plaintiff no

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longer possessed the right for the invasion of which this action was brought, and the recovery, if had, must be for an injury done, not to him, but to another, in whom the very same cause of action will continue to exist.

Mr. Staples, contra.

1. The first question is, whether the conveyance from Fitzgerald to Enos Wilder, before the issuing of the patent, conveyed the patent itself when issued. The error on the other side is in considering an invention as a sort of chose in action. An invention, however, is as much property as a horse or a house, and, when patented, becomes the *exclusive* property of the patentee. It is consequently assignable as well before as after the granting of letters patent. The very terms employed in the eleventh and fourteenth sections of the act of 1836, (5 Stat. at Large, 121, 122,) and which are relied on by the other side as showing that the *patent* only was assignable, show, on the contrary, that reference was not had to anything in the nature of a chose in action, but that the *interest* of the inventor in the thing invented was the subject of assignment. *Herbert v. Adams*, 4 Mason, 15, is to the effect, that a conveyance of an invention operates as a conveyance of the patent, whether dated before or after the patent. So also *Curtis on Patents*, secs. 189, 260.

2. The next assignment of error is, that the court did not decide that the agreement of the plaintiff with Silas C. Herring did not divest the former of all interest in the patent, so that he could not thereafter maintain an action thereon. We say not,—because Wilder did not give up *all* his interest, he reserving one cent a pound on all safes made under the patent in the city and State of New York; because he reserved the right to manufacture in the city of New York on the terms named; because the agreement was a mere license; and because it is obvious, from the face of the agreement itself, that Wilder was to bring suits to sustain the patent. *Brooks v. Byam*, 2 Story, 541. The latter part of the agreement with Wilder was equivalent to this, viz.: Wilder sells to Herring the right to manufacture and vend

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safes within the city, county, and State of New York ; but he reserves to himself the right to make *in* the city safes to be sold *out* of the city. He also reserves the right to make safes to be sold *within* the city, upon payment to Herring of one cent per pound. This shows that Wilder had not sold his entire right, and could therefore maintain this action.

3. As to the Conner safe. The object of the law was to protect genius and at the same time to invite something useful to the country. A prior experiment, locked up in a man's own bosom, not divulged to the public, not rendered useful to the public, is surely not such an invention as will exclude a *bonâ fide* inventor of the same thing from the benefits of the Patent Laws, if he has used diligence in embodying his invention and reducing it to practice. Such, on the contrary, was the very person intended to be benefited. It is not correct to say that an inventor must have been the first man who has ever thought of the subject, or that mere speculations are within the meaning of the act ; but he is an inventor under the law who has first put the invention into such a shape as to be useful to the public.

Mr. Webster, on the same side.

It is agreed that, under the previously existing laws, the invention would have been assignable. But it is supposed that the act of 1836, which repeals all former laws, only makes the patent assignable, but says nothing of the invention. Now, two things are to be considered. 1st. In a country where the principle of the Patent Laws is recognized, where an *invention* is regarded as property which may be set apart for a person's own exclusive use, is it not assignable, independent of any statute enactment ? If not, *why* is it not ? What is the *reason* that an invention which is recognized as *property* shall not be transferable, like other property, there being nothing in the statute to prohibit it ? 2d. Does the language of the eleventh section of the act of 1836 restrict assignability to the patent ? I think not. Every other portion of the act has a different aspect.

Wilder has clearly the right to maintain an action, for the

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reason that he has not parted with all his interest. He still has an interest to the value of one cent per pound. But the agreement itself was a mere license. It uses the term *license*, and does not run to the heirs and assignees.

With regard to the Conner safe, it could not be considered such a prior invention as would take away the right of Fitzgerald to a patent. There are *dicta* in Judge STORY's decision in the case of *Reed v. Cutter*, 1 Story, 590, which, if not limited, would be of dangerous tendency. Now, the instruction objected to supposes an invention to be made, but kept within the inventor's own bosom. The question is, whether an original inventor, (that is, one who did not derive his knowledge from another,) who has put his invention into practice, shall be deprived of his patent by such a mere thought, gendered in another's brain, and to which he "gives no tongue." The object of the Patent Law, and of the Constitution under which the law was passed, was the public benefit. If this be so, how does a man bring himself within its provisions who locks his secret in his own breast? And why is he less a benefactor to the public who invents a machine which had been before invented and afterward forgotten, than he who invents something never before known?

Mr. Gayler, in reply and conclusion.

It is said that the invention would be assignable, independent of the Patent Law. It is submitted that this is not correct. Except by statute, the inventor has no right of property in his invention. The statute was intended to confer that very right. Now, the act of 1793 gave the right of assigning an *invention*, and yet, with this before them, Congress, in the act of 1836, make only the *patent* assignable. If, then, the patent is made assignable only by the law, how can it be said that the invention does not stand in need of such a provision?

It is said that the plaintiff has reserved one cent per pound, and can therefore maintain this action. It will be seen, however, that this part of the agreement is a penalty.

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If he, Wilder, makes safes in New York to be sold in New York, he shall pay, &c. A licensee can maintain an action.

The facts as to the Conner safe should have been left to the jury. This was not a case where the invention had been lost or forgotten ; but, within a few years, a man makes for his own use, and actually uses in his own counting-house, a safe constructed upon the same principles as that which is the foundation of this suit. The law requires that a patented article should not have been made or used before.

Mr. Chief Justice TANEY delivered the opinion of the court.

Three objections have been taken to the instructions given by the Circuit Court at the trial, and neither of them is, perhaps, entirely free from difficulty.

The first question arises upon the assignment of Fitzgerald to Enos Wilder. The assignment was made and recorded in the Patent Office before the patent issued. It afterward issued to Fitzgerald. And the plaintiffs in error insist that this assignment did not convey to Wilder the legal right to the monopoly subsequently conferred by the patent, and that the plaintiff who claims under him cannot, therefore, maintain this action.

The inventor of a new and useful improvement certainly has no exclusive right to it until he obtains a patent. This right is created by the patent, and no suit can be maintained by the inventor against any one for using it before the patent is issued. But the discoverer of a new and useful improvement is vested by law with an inchoate right to its exclusive use, which he may perfect and make absolute by proceeding in the manner which the law requires. Fitzgerald possessed this inchoate right at the time of the assignment. The discovery had been made, and the specification prepared to obtain a patent. And it appears, by the language of the assignment, that it was intended to operate upon the perfect legal title which Fitzgerald then had a lawful right to obtain, as well as upon the imperfect and

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inchoate interest which he actually possessed. The assignment requests that the patent may issue to the assignee. And there would seem to be no sound reason for defeating the intention of the parties, by restraining the assignment to the latter interest, and compelling them to execute another transfer, unless the act of Congress makes it necessary. The court think it does not. The act of 1836 declares that every patent shall be assignable in law, and that the assignment must be in writing, and recorded within the time specified. But the thing to be assigned is not the mere parchment on which the grant is written. It is the monopoly which the grant confers—the right of property which it creates. And when the party has acquired an inchoate right to it, and the power to make that right perfect and absolute at his pleasure, the assignment of his whole interest, whether executed before or after the patent issued, is equally within the provisions of the act of Congress.

And we are the less disposed to give it a different construction, because no purpose of justice would be answered by it, and the one we now give was the received construction of the act of 1793 in several of the circuits; and there is no material difference in this respect between the two acts. As long ago as 1825, it was held, by Mr. Justice STORY, that in a case of this kind an action could not be maintained in the name of the patentee, but must be brought by the assignee. [*Herbert v. Adams*] 4 Mason, 15. We understand the same rule has prevailed in other circuits; and if it were now changed, it might produce much injustice to assignees who have relied on such assignments, and defeat pending suits, brought upon the faith of long-established judicial practice and judicial decision. Fitzgerald sets up no claim against the assignment, and to require another to complete the transfer would be mere form. We do not think the act of Congress requires it; but that, when the patent issued to him, the legal right to the monopoly and property it created was, by operation of the assignment then on record, vested in Enos Wilder.

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The next question is upon the agreement between the defendant in error and Herring. Is this instrument an assignment to Herring for the State or city of New York, upon which he might have sued in his own name? If it is, then this action cannot be maintained by the defendant in error.

Now, the monopoly granted to the patentee is for one entire thing; it is the exclusive right of making, using, and vending to others to be used the improvement he has invented, and for which the patent is granted. The monopoly did not exist at common law, and the rights, therefore, which may be exercised under it cannot be regulated by the rules of the common law. It is created by the act of Congress; and no rights can be acquired in it unless authorized by statute, and in the manner the statute prescribes.

By the eleventh section of the act of 1836, the patentee may assign his whole interest, or an undivided part of it. But if he assigns a part under this section, it must be an undivided portion of his entire interest under the patent, placing the assignee upon an equal footing with himself for the part assigned. Upon such an assignment, the patentee and his assignees become joint owners of the whole interest secured by the patent, according to the respective proportions which the assignment creates.

By the fourteenth section, the patentee may assign his exclusive right within and throughout a specified part of the United States, and upon such an assignment the assignee may sue in his own name for an infringement of his rights. But in order to enable him to sue, the assignment must undoubtedly convey to him the entire and unqualified monopoly which the patentee held in the territory specified,—excluding the patentee himself as well as others. And any assignment short of this is a mere license; for it was obviously not the intention of the legislature to permit several monopolies to be made out of one, and divided among different persons within the same limits. Such a division would inevitably lead to fraudulent impositions upon persons who desired to purchase the use of the improvement,

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and would subject a party who, under a mistake as to his rights, used the invention without authority, to be harassed by a multiplicity of suits instead of one, and two successive recoveries of damages by different persons holding different portions of the patent-right in the same place. Unquestionably, a contract for the purchase of any portion of the patent-right may be good as between the parties as a license, and enforced as such in the courts of justice. But the legal right in the monopoly remains in the patentee, and he alone can maintain an action against a third party who commits an infringement upon it. This is the view taken of the subject in the case of *Blanchard v. Eldridge*, 1 J. W. Wallace, Jr., 337, and we think it the true one.

Applying these principles to the case before us, the action was properly brought by the plaintiff below, and could not have been maintained by Herring.

The agreement is singularly confused and complicated. It purports to grant to Herring the exclusive right to make and vend the Salamander safe in the city, county, and State of New York; and Herring agrees to pay to the defendant in error a cent a pound for every pound the safes might weigh, to be paid monthly. But, at the same time, it reserves to Wilder the right to set up a manufactory or works for making these safes in the State of New York, provided it is not within fifty miles of the city, and to sell them in the State of New York, paying to Herring a cent a pound on each safe so sold within the State.

It is evident that this agreement is not an assignment of an undivided interest in the whole patent, nor the assignment of an exclusive right to the entire monopoly in the State or city of New York. It is therefore to be regarded as a license only, and, under the act of Congress, does not enable Herring to maintain an action for an infringement of the patent-right. The defendant in error continues the legal owner of the monopoly created by the patent.

The remaining question is upon the validity of the patent on which the suit was brought.

It appears that James Conner, who carried on the busi-

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ness of a stereotype founder in the city of New York, made a safe for his own use between the years 1829 and 1832, for the protection of his papers against fire ; and continued to use it until 1838, when it passed into other hands. It was kept in his counting-room, and known to the persons engaged in the foundry ; and after it passed out of his hands, he used others of a different construction.

It does not appear what became of this safe afterward. And there is nothing in the testimony from which it can be inferred that its mode of construction was known to the person into whose possession it fell, or that any value was attached to it as a place of security for papers against fire, or that it was ever used for that purpose.

Upon these facts, the court instructed the jury, "that if Conner had not made his discovery public, but had used it simply for his own private purpose, and it had been finally forgotten or abandoned, such a discovery and use would be no obstacle to the taking out of a patent by Fitzgerald or those claiming under him, if he be an original, though not the first, inventor or discoverer."

The instruction assumes that the jury might find from the evidence that Conner's safe was substantially the same with that of Fitzgerald, and also prior in time. And if the fact was so, the question then was, whether the patentee was "the original and first inventor or discoverer," within the meaning of the act of Congress.

The act of 1836, ch. 357, sec. 6, authorizes a patent where the party has discovered or invented a new and useful improvement, "not known or used by others before his discovery or invention." And the fifteenth section provides, that if it appear on the trial of an action brought for the infringement of a patent that the patentee "was not the original and first inventor or discoverer of the thing patented," the verdict shall be for the defendant.

Upon a literal construction of these particular words, the patentee in this case certainly was not the original and first inventor or discoverer, if the Conner safe was the same with his, and preceded his discovery.

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But we do not think that this construction would carry into effect the intention of the legislature. It is not by detached words and phrases that a statute ought to be expounded. The whole act must be taken together, and a fair interpretation given to it, neither extending nor restricting it beyond the legitimate import of its language and its obvious policy and object. And in the fifteenth section, after making the provision above mentioned, there is a further provision, that if it shall appear that the patentee, at the time of his application for the patent, believed himself to be the first inventor, the patent shall not be void on account of the invention or discovery having been known or used in any foreign country, it not appearing that it had been before patented or described in any printed publication.

In the case thus provided for, the party who invents is not, strictly speaking, the first and original inventor. The law assumes that the improvement may have been known and used before his discovery. Yet his patent is valid if he discovered it by the efforts of his own genius, and believed himself to be the original inventor. The clause in question qualifies the words before used, and shows that by knowledge and use, the legislature meant knowledge and use existing in a manner accessible to the public. If the foreign invention had been printed or patented, it was already given to the world and open to the people of this country, as well as of others, upon reasonable inquiry. They would therefore derive no advantage from the invention here. It would confer no benefit upon the community, and the inventor therefore is not considered to be entitled to the reward. But if the foreign discovery is not patented, nor described in any printed publication, it might be known and used in remote places for ages, and the people of this country be unable to profit by it. The means of obtaining knowledge would not be within their reach ; and, as far as their interest is concerned, it would be the same thing as if the improvement had never been discovered. It is the inventor here that brings it to them, and places it in

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their possession. And as he does this by the effort of his own genius, the law regards him as the first and original inventor, and protects his patent, although the improvement had in fact been invented before, and used by others.

So, too, as to the lost arts. It is well known, that centuries ago discoveries were made in certain arts, the fruits of which have come down to us, but the means by which the work was accomplished are at this day unknown. The knowledge has been lost for ages. Yet it would hardly be doubted, if any one now discovered an art thus lost, and it was a useful improvement, that, upon a fair construction of the act of Congress, he would be entitled to a patent. Yet he would not, literally, be the first and original inventor. But he would be the first to confer on the public the benefit of the invention. He would discover what is unknown, and communicate knowledge which the public had not the means of obtaining without his invention.

Upon the same principle and upon the same rule of construction, we think that Fitzgerald must be regarded as the first and original inventor of the safe in question. The case as to this point admits, that although Conner's safe had been kept and used for years, yet no test had been applied to it, and its capacity for resisting heat was not known; there was no evidence to show that any particular value was attached to it after it passed from his possession, or that it was ever afterward used as a place of security for papers; and it appeared that he himself did not attempt to make another like the one he is supposed to have invented, but used a different one. And upon this state of the evidence, the court put it to the jury to say, whether this safe had been finally forgotten or abandoned before Fitzgerald's invention, and whether he was the original inventor of the safe for which he obtained the patent; directing them, if they found these two facts, that their verdict must be for the plaintiff. We think there is no error in this instruction. For if the Conner safe had passed away from the memory of Conner himself, and of those who had seen it, and the safe itself had disappeared, the

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knowledge of the improvement was as completely lost as if it had never been discovered. The public could derive no benefit from it until it was discovered by another inventor. And if Fitzgerald made his discovery by his own efforts, without any knowledge of Conner's, he invented an improvement that was then new, and at that time unknown; and it was not the less new and unknown because Conner's safe was recalled to his memory by the success of Fitzgerald's.

We do not understand the Circuit Court to have said that the omission of Conner to try the value of his safe by proper test would deprive it of its priority; nor his omission to bring it into public use. He might have omitted both, and also abandoned its use, and been ignorant of the extent of its value; yet, if it was the same with Fitzgerald's, the latter would not upon such grounds be entitled to a patent, provided Conner's safe and its mode of construction were still in the memory of Conner before they were recalled by Fitzgerald's patent.

The circumstances above mentioned, referred to in the opinion of the Circuit Court, appear to have been introduced as evidence tending to prove that the Conner safe might have been finally forgotten, and upon which this hypothetical instruction was given. Whether this evidence was sufficient for that purpose or not, was a question for the jury, and the court left it to them. And if the jury found the fact to be so, and that Fitzgerald again discovered it, we regard him as standing upon the same ground with the discoverer of a lost art, or an unpatented and unpublished foreign invention, and, like him, entitled to a patent; for there was no existing and living knowledge of this improvement, or of its former use, at the time he made the discovery; and whatever benefit any individual may derive from it in the safety of his papers, he owes entirely to the genius and exertions of Fitzgerald.

Upon the whole, therefore, we think there is no error in the opinion of the Circuit Court, and the judgment is therefore affirmed.

Dissenting opinion.

Mr. Justice McLEAN.

I dissent from the opinion of a majority of the judges in this case. The point of difference, I think, is essential to the maintenance of the rights of the public and also of inventors.

It was proved by James Conner, as appears from the bill of exceptions, "that between 1829 and 1832 he was engaged in business as a stereotype founder, and, knowing that plaster of Paris was a non-conductor of heat, he constructed a safe with a double chest, and filled the space between the inner and outer one with plaster of Paris; the same substantially as testified to and claimed by Fitzgerald, except there was no plaster used on the top of the safe. It was made for his own private use in his establishment, and was used by him as a safe from the time it was made till 1838, when it passed into other hands. It was kept in the counting-room while he used it, and was known to the persons working in the foundry." This evidence was confirmed by another witness.

By the sixth section of the Patent Act of 1836, it is provided, "that any person or persons having discovered or invented any new or useful art, machine, manufacture, or composition of matter, or any new or useful improvement on any art, machine, manufacture, or composition of matter, *not known or used by others before his or their discovery or invention thereof*," may apply for a patent, &c. The applicant is required to "*make oath or affirmation that he does verily believe that he is the original and first inventor*," &c., "*and that he does not know or believe that the same was ever before known or used.*"

The seventh section authorizes and requires the Commissioner of Patents "to make or cause to be made an examination of the alleged new invention or discovery; and if on such examination it shall not appear to the Commissioner that the same had been *invented or discovered by any other person in this country prior to the alleged invention or discovery thereof by the applicant, or that it had been patented or described in any printed publication in this*

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or any foreign country," &c., the Commissioner may grant a patent.

In the fifteenth section, it is provided, "that whenever it shall satisfactorily appear that the patentee, at the time of making his application for the patent, believed himself to be the first inventor or discoverer of the thing patented, the same shall not be held to be void on account of the invention or discovery, or any part thereof, having been before known or used in any foreign country, it not appearing that the same or any substantial part thereof had before been patented or described in any printed publication."

From the above extracts, it is seen that the patentee must be the inventor of the machine, or the improvement of it, or he can have no right. If the thing was known or used by others, he cannot claim a patent. Or if it was patented in a foreign country, or described in any publication at home or in any foreign country, he has no right to a patent. To this there is only the exception in the fifteenth section, above cited. But this can have no influence in the present case.

Let these provisions of the statute be compared with the last two paragraphs of the charge of the court, as stated in the third exception :

"And said court further instructed the jury, that if they found that the use made by James Conner of plaster of Paris was confined to a single iron chest, made for his own private use after said Fitzgerald's discovery and experiments, then it was not in the way of Fitzgerald's patent, and the same was valid ; but if the jury found that said James Conner made his said safe, as claimed, *and tested it by experiments*, before Fitzgerald's invention and improvement, *and before he tested the same*, then said Fitzgerald was not the first inventor, as claimed, and was not entitled to said patent."

This charge stands disconnected with any other facts in the case, except those named, and, in my judgment, it is erroneous. If Conner's safe was identical with Fitzgerald's, and though it was of prior invention, *yet if it were not tested by experiments* before Fitzgerald's improvement, and be-

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fore he tested the same, the jury, under the instruction, were bound to find for Fitzgerald. And the case was thus made to turn, not on the priority of invention only, but upon that *and the fact of its having been tested by experiments*. This introduces a new principle into the Patent Law. The right under the law depends upon the time of the invention. An experimental test may show the value of the thing invented, but it is no part of the invention.

“The court further charged, that, independently of these considerations, there was another view of the case, as it respected the Conner safe; that it was a question whether the use of it by him had been such as would prevent another inventor from taking out a patent; that if Conner had not made his discovery public, but had used it simply for his own private purpose, and it had been finally forgotten or abandoned, such a discovery and use would be no obstacle to the taking out of a patent by Fitzgerald, or those claiming under him, if he be an original, though not the first, inventor or discoverer of the improvement.”

If there be anything clear in the Patent Law, it is that the original inventor means the first inventor, subject only to the provision stated in the fifteenth section. This instruction presupposes that the safes are the same in principle. Now, if the invention was patented abroad, or was described in a foreign publication, both of which were unknown to the inventor in this country, still his patent is void. So it is void if such invention has been known to any person in this country. The instruction says, if Conner's invention “had been forgotten or abandoned,” it was no obstacle to Fitzgerald's right. Can a thing be forgotten or abandoned that never was known? If known before Fitzgerald's invention, it is fatal to it. By whom must it have been forgotten? By the inventor or the public, or both? And how must it have been abandoned? When an invention is abandoned, it is said to be given up to the public; and this is the sense in which the term *abandonment* is used in the Patent Law. Such an abandonment would be fatal to the right of Fitzgerald.

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Conner's safe, as appears from the bill of exceptions, was used in his counting-house, being accessible to every one, some six or eight years. In 1838, it passed into other hands; but into whose hands it does not appear. In 1843, Fitzgerald obtained his patent. How long before that, he made experiments to test the invention, is not proved. At most, the time must have been less than five years. This is a short period on which to found a presumption of forgetfulness. The law authorizes no such presumption. It can never become the law. It is not founded on probability or reason. The question is, was Conner's invention prior to that of Fitzgerald? That it was of older date, by some ten or twelve years, is proved. And the instruction, it must be observed, was founded on the supposition that both inventions were similar.

The instruction seems to attach great importance to the fact that Conner's safe was used only for his private purpose. This is of no importance. The invention is the question, and not the manner in which the inventor used it. The safe was constructed at the foundry, and must have been known to the hands there employed. How can it be ascertained that Fitzgerald was not informed by some of these hands of the structure of Conner's safe, or by some one of the many hundreds who had seen it in his counting-house in the city of New York? It was to guard against this, which is rarely if ever susceptible of proof, that the act is express,—*if the thing patented was known before*, the patent is void. If the fact of this knowledge in any one be established, it is immaterial whether the patentee may have known it or not, it avoids his patent.

The law on this subject is not founded upon any supposed notions of equity. A foreign patent for the same thing, or a description of the thing in a foreign publication, is as effectual to avoid the patent as if the patentee had seen the prior invention. Notice to him is not important. The law is adopted on a settled public policy, which, while it is just to inventors, protects the rights of the public. Any other basis would open the door to endless frauds, by

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pretended inventors, without the probability of detection. And especially does this new doctrine of forgetfulness or abandonment, used in any other sense than as recognized in the Patent Law, leaving such matters to a jury, overturn what I consider to be the settled law on this subject. Of the same character, is the fact that the invention was used for private purposes. A thing may be used in that way, and at the same time be public, as was the case with the Conner safe; and yet the jury are necessarily misled by such an instruction:

Mr. Justice DANIEL, dissenting.

Differing from the majority in the decision just pronounced, I proceed to state the grounds on which my dissent from that decision is founded.

On two essential points in this cause, it seems to me that the learned justice who tried it at the circuit has erred, and that the decision here should therefore have been for a reversal of his judgment. Those points involve, first, the right of the plaintiff below to maintain his action upon the title or right of action deduced from Fitzgerald through Enos and Benjamin Wilder; and, secondly, a right to or interest in the subject of the suit on the part of the plaintiff below, admitting that subject to have been originally invented and used by some other person than Fitzgerald,—a right founded upon an assumption that this subject had been used in *private only*, or had, in the language of the learned justice, been “finally forgotten or abandoned” by such first inventor. These points are presented by the first and third exceptions of the plaintiffs in error to the rulings at the trial below. The plaintiff in the Circuit Court claimed by assignment from B. G. Wilder, assignee of Enos Wilder, assignee of Daniel Fitzgerald, alleged to have been the inventor of the Salamander safe. By the paper deduction of title, it appears that on the 11th day of April, 1839, Fitzgerald, alleging that he had invented an improvement called the Salamander safe, for which he was about to apply for letters patent, for the consideration of five thousand

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dollars, sold the interest he then had, or might thereafter have, in this invention, to Enos Wilder ; that Enos Wilder, on the 1st day of September, 1843, for the consideration of one dollar, assigned and transferred to the plaintiff all the right, title, and interest which he had derived from Fitzgerald under the agreement of the 11th of April, 1839 ; that no patent issued for this Salamander safe until the year 1843, when a patent was granted to *Daniel Fitzgerald*, as the original inventor ; that no patent for his invention has ever been granted either to Enos or B. G. Wilder, either as inventor or assignee of this safe ; that the title, whatever it may be, rests upon the agreement between Fitzgerald and Enos Wilder, of the 11th of April, 1839, before the patent to the former.

It must be recollected, that this is an action *at law* ; and in order to maintain it, the plaintiff was bound to set out and to prove *a legal title*. Has he done either ? What was the character of the interest or title transferred from Fitzgerald to Enos Wilder ? This could not transcend the interest or title possessed by Fitzgerald himself ; and what was this ? A title to any specific machine which he may have constructed, and of which no person could rightfully deprive him ; and a claim upon the good-will and gratitude of the community, if in truth he should have conferred upon them a benefit by the discovery and construction of his machine. I speak now in reference to rights derivable from the common law, and independently of the Constitution or of statutory provisions. The mere circumstances of inventing and constructing a machine, could no more inhibit its imitation, than would the structure or interior arrangement of a house of peculiar ingenuity or convenience prevent the like imitation by any one who could possess himself of its plan. The mere mental process of devising an invention enters not into the nature of property, according to the common law ; it forms no class or division in any of its enumerations or definitions of estates or property, and is a matter quite too shadowy for the practical character of that sturdy system.

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A doctrine contrary to this, though with some discrepancy amongst the judges as to its extent, seems at one time to have obtained in the King's Bench, as propounded in the case of *Miller v. Taylor*, in 4 Burrow, 2305, in opposition to the profound and unanswerable reasoning of Mr. Justice Yeates : but upon a review of the same question in the Lords, in the case of *Donaldson v. Beckett* and others, the doctrine of the King's Bench was repudiated, and that of the common law, as asserted by Justice Yates, vindicated and restored. And, indeed, if, according to the opinions of some of the judges in the case of *Miller v. Taylor*, the mere mental process of invention constituted an estate or property at the common law, and property vested *in perpetuo*, except so far as it should be transferred by the owner, it is difficult to perceive the necessity of a cautious and complicated system for the investment and security of interests already perfect, and surrounded with every guard and protection which is inseparable under the common law from every right it has created or recognized. But if the mere mental and invisible process of invention, apart from the specific, sensible, and individual structure, can be classed at all as property at law, it must partake of the character of a chose in action, much more so than an obligation or contract, the terms and conditions of which are defined and assented to by the contracting parties. To choses in action, it can scarcely be necessary here to remark, assignability is imparted by the statutory enactment only, or by commercial usage. To hold that the single circumstance of invention creates an estate or property at law, and an estate and legal title transmissible by assignment, appears to me a doctrine not merely subversive of the common law, but one which contravenes the origin and course of legislation in England in relation to patent-rights, and renders useless and futile both the constitutional provision and all the careful enactments of Congress for the security and transmissibility of the same rights. For why, as has been already remarked, should that provision and these enactments have been made for the establishment and security

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of that which was established and safe independently of both? I hold it, then, to be true, that the circumstance of *invention* invests no such perfect estate or right of property as can be claimed and enforced at law or in equity against the *user* of the same invention, either by subsequent inventors or imitators, and that any estate or property in the mere mental process of invention must be traced to and deducible from the Constitution and the acts of Congress alone. I cannot but regard as mischievous and alarming, an attempt to introduce a *quasi* and indefinite, indefinable, and invisible estate, independently of the Constitution and acts of Congress, and unknown to the rules and principles of the common law.

It is the *patent alone* which creates an estate or interest in the *invention* known to the law, and which can be enforced either at law or in equity, either by the inventor or by the person to whom, by *virtue of the statute*, he may assign his rights. Down to the act of Congress of 1837, nothing but the estate, interest, or property created or invested by *the patent itself*, was made assignable. The language of the law is, that "*every patent*," "*the exclusive right under any patent*," "*the thing patented*," may be assignable. The fact or existence of a *patent* is in every instance inseparable from the right given. It is this fact, and this only, which impresses the quality of assignability. Of course, under these provisions there could be no transfer of the legal title previously to a patent.

By section six of the act of Congress, approved March 3, 1837, it is provided, that *thereafter* any patent *to be issued* may be made to the assignee of the inventor or discoverer, upon the conditions set forth in this section. Yet, still it is presumed, that until the issuing of a patent, so far is it from being true that a legal estate or title existed in such assignee, it is clear, on the contrary, that no *legal title* existed before the patent in the inventor himself; for it is the patent which constitutes his title. Of course, then, the assignee can, at most, hold nothing but an equity under such an assignment, which he may insist upon under this

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assignment against the inventor or against the government ; but he has no legal title by force merely of such an assignment ; and, *a fortiori*, he has no legal title if the patent, notwithstanding such an assignment, is in fact issued to the inventor, but is thereby entirely excluded from all pretension to a legal title. Thus, in the case before us, the patent under which the plaintiff claims was, subsequently to the agreement between Fitzgerald and Enos Wilder, issued to Fitzgerald, the inventor, and, according to the proofs in the cause, has never been renewed to Enos Wilder, nor to any claimant under him, nor been assigned to any such claimant, but remains still in the alleged inventor, Fitzgerald. It seems to me, then, indisputable, that the legal title indispensable for the maintenance of this suit *at law* never was in the plaintiff, and that he could not maintain the action.

The second instance in which I hold the learned justice who tried this cause to have erred, is that in which he instructed the jury as follows : " That if Conner had not made his *discovery public*, but had used it simply for his own private purpose, and it had been *finally forgotten or abandoned*, such *discovery* and *use* would be no obstacle to the taking out of a patent by Fitzgerald, or those claiming under him, if he be an original, though not *the first, inventor or discoverer* of the improvement." In considering this instruction of the learned judge, the first vice with which it appears to be affected is its violation of a rule thought to be universally applicable to instructions to juries in trials at law ; and that rule is this, that instructions should always arise out of, and be limited to, the facts or evidence in the cause to which the questions of law propounded from the bench should be strictly applicable ; and that instructions which are general, abstract, or not springing from, and pertinent to, the facts of the case, are calculated to mislead the jury, and are therefore improper. Tried by this rule, the instruction of the learned judge, so far as it relates to Conner's not having made his discovery *public*, or having finally forgotten or abandoned it, is certainly ir-

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relevant to, and unsustained by, any evidence in the record. So far is the existence of such testimony from being shown, the converse is proved and is justly inferable throughout; for although it does not appear that Conner advertised his invention in the public papers, or claimed a patent for it, it is admitted that he used this safe in an extensive business establishment, to which it is certain, from the nature of his business, the public had access; and it is not pretended that he made any effort at concealment of what he had invented, and the record is entirely destitute of evidence of an abandonment of his invention. As to the assumption of his having forgotten it, there is neither a fact, an inquiry, nor conjecture in the testimony pointing to such a conclusion. The instruction appears to me to be wholly gratuitous and irrelevant. . But supposing this instruction to have been founded upon testimony introduced before the jury, let us consider for a moment its correctness as a rule of law applicable to this cause. This charge, it must be recollected, admits that Conner was, or might have been, the first inventor; and, notwithstanding, asserts that Fitzgerald, though posterior in time, might, upon the conditions and considerations assumed by the judges, become the owner of the right. Are these conditions warranted, either by the rules of public policy, or by the terms and language of legislative provisions on such subjects? It is said that patent privileges are allowed as incitements to inventions and improvements by which the public may be benefited. This position, that may be conceded in general, should not be made a means of preventing the great and public purposes its legitimate enforcement is calculated to secure. The admission of this principle leaves entirely open the inquiries, whether he is more the benefactor of the public who makes a useful improvement which he generously shares with his fellow-citizens, or he who studies some device which he denies to all, and limits, by every means in his power, to a lucrative monopoly; and still more, whether the latter shall be permitted to seize upon that which had already (as is here admitted) been given to

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the public, thereby to levy contributions, not only on the community at large, but upon him even who had been its generous benefactor. It was doubtless to prevent consequences like those here presented, that the *priority* and *originality* of inventions are so uniformly and explicitly insisted upon in all the legislation of Congress, as will presently be shown. The tendency of the learned judge's charge to mislead the jury, from its want of precision, and its failure to define any certain predicament upon which the action of the jury should be founded, is, of itself, an insuperable objection to that charge. Thus, it is said if Conner "had not *made his discovery public*." In what mode? it may be asked. What form of publicity did the learned judge intend the jury should require? It is shown that Conner used his safe publicly; that is, he concealed it from no one; and if any mode or kind of publication or concealment was requisite, either to establish or conclude the right of Conner, or to conclude common right, (a delinquency in the nature of a forfeiture,) surely that mode, if found either in any statute or in the rules of the common law, ought to have been clearly laid down, so as to guard the rights of all. In the next place, it is said, by the learned judge, that if Conner had *abandoned* this improvement which the charge admits him to have invented, this would justify a patent to another who had not known of the improvement, although a subsequent inventor. I have always understood it to be indisputable law, that wherever an inventor abandons or surrenders an invention or improvement which he has certainly made, and neither claims an exclusive right in himself nor transfers it to another, the invention or improvement is given to the public; but by the charge in this case, such an abandonment transfers an *exclusive right* to one who, by the case supposed, is *admitted not to be the first inventor*. So, too, with respect to the hypothesis of the learned judge, that the invention had or might have been forgotten. To this, the same objections of vagueness and uncertainty, and the graver objection of injustice to the real inventor or to the public, are

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applicable. By whom, and for what interval of time, must this improvement have been forgotten, in order to transfer it from the originator thereof? For a term of years? And if so, for how long a term? But suppose he forgets it for his lifetime, shall his executor or his posterity, upon the exhibition of indisputable proofs of the invention, yea, the very machine itself, perfect in all its parts and in its operation, be cut off? This surely cannot be; but, at any rate, the jury should have been furnished with some rule or measure of obliviousness, if this was to be made the substantive cause of deprivation as to the original inventor, or the foundation of right, and of exclusive right, in one confessedly not the first inventor. An attempt has been made to compare the doctrine propounded by the court to what it might be thought is the law as applicable to the discovery, or rather *recovery*, of the processes employed in what have been called *the lost arts*. This illustration is, in itself, somewhat equivocal, and by no means satisfactory; for if that process could certainly be *shown* to be the same with one claimed by the modern inventor, his discovery could scarcely have the merit of originality, or be the foundation of exclusive right. But, in truth, the illustration attempted to be drawn from a revival of a lost art is not apposite to the present case. The term *lost art* is applicable peculiarly to certain monuments of antiquity still remaining in the world, the process of whose accomplishment has been lost for centuries, has been irretrievably swept from the earth, with every vestige of the archives or records of the nations with whom those arts existed, and the origin, or even the identity, of which process none can certainly establish. And if a means of producing the effect we see and have amongst us be discovered, and none can, either by history or tradition, refer to a similar or to the identical process, the inventor of that means may so far claim the merit of originality, though the work itself may have been produced possibly by the same means. But not one principle drawn from such a state of things can be applied to a recent proceeding, which counts from its origin scarcely a period of

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fifteen years. In fine, this ruling of the learned judge is regarded as being at war not less with the policy and objects than it is with the express language of all the legislation by Congress upon the subject of patent-rights, which legislation has uniformly constituted *priority of invention* to be the foundation and the test of all such rights. Thus, in the act of April 10, 1790, the first Patent Law, (1 Statutes at Large, 109,) it is declared, by the first section, "That upon the application of any person or persons, &c., setting forth that he, she, or they hath or have invented or discovered any useful art, &c., *not before known or used*," &c. ; and the second section of the same statute, requiring a specification of any invention or discovery, declares that it shall be so described "as to distinguish it from all other things known or used."

The act of February 21, 1793, (1 Statutes at Large, 318,) provides, that when any citizen or citizens of the United States shall allege that he or they have invented any "*new and useful art, &c., not known or used before the application*," &c.

By the act of April 17, 1800, (2 Statutes at Large, 38,) which extends the privilege of patents to aliens, proof is required that the art, invention, or discovery hath not *been known or used* in that or any foreign country. It is true, that this requisition has been so far relaxed as to admit of the patenting in this country inventions which had been invented and used abroad ; but, with respect to this country, the invention, &c., must still be original.

In the act of July 4, 1836, (5 Statutes at Large, 117,) re-organizing the Patent Office, the language of the sixth section is as follows : "That any person or persons having discovered or invented any new and useful art, &c., *not known or used by others before his or their discovery*," &c. The language and import of the laws here cited are too plain to require comment ; and I think that the production of a single instance from the statute-book may safely be challenged, by which the requisites above mentioned have been dispensed with. Every law, on the con-

Notes and Citations.

trary, has emphatically demanded originality and priority as indispensable prerequisites to patent privileges, and every aspirant to such privileges is expressly required to swear to these prerequisites, as well as to establish them. These tests ordained by the laws are not only founded upon the true reason for the privileges conferred, but they are simple and comprehensible ; whereas the innovations permitted by the ruling of the learned judge not only conflict with the true reason and foundation of patent privileges, but tend to an uncertainty and confusion which cannot but invite litigation and mischief. I think that the judgment of the Circuit Court should be reversed, and the cause remanded for a *venire facias de novo*.

Mr. Justice GRIER also dissented.

ORDER. This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the Southern District of New York, and was argued by counsel ; on consideration whereof, it is now here ordered and adjudged by this court, that the judgment of the said Circuit Court in this cause be, and the same is hereby, affirmed with costs, and damages at the rate of six per centum per annum.

AFFIRMED WITH COSTS.

Notes :

1. Inventor has no exclusive right until he obtains a patent.

Brown v. Duchesne, 19 How. 183.

2. Inchoate rights of inventor may be sold.

Hammond v. Mason, etc., Organ Co., 92 U. S. 724.

Assignment of :

Railroad Co. v. Trimble, 10 Wall. 367.

Littlefield v. Perry, 21 Wall. 205.

Hendrie v. Sayles, 98 U. S. 546.

Notes and Citations.

3. Act 1793, § 4; Act 1836, § 11; Act 1870, § 36; R. S., § 4898.
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4. Act 1790, § 4; Act 1793, § 5; Act 1800, § 3; Act 1836, § 14; Act 1870, § 59; R. S., § 4919.

Assignee's right to sue:

Tyler v. Tuel, 6 Cranch, 324 (4 Am. & Eng. 1). Act 1793.

Moore v. Marsh, 7 Wall. 515.

Hayward v. Andrews, 106 U. S. 672.

Exclusive territorial grantee:

Wilson v. Rousseau, 4 How. 646 (4 Am. & Eng. 436).

Woodworth v. Wilson, 4 How. 712 (4 Am. & Eng. 542).

Littlefield v. Perry, 21 Wall. 205.

5. Agreement construed a license and not an exclusive territorial grant.

Oliver v. Rumford Chem. Works, 109 U. S. 75.

7. Act 1790, § 1; Act 1793, § 1; Act 1800, § 1; Act 1836, § 6; Act 1863, § 1; Act 1870, § 24; R. S., § 4886.
-

Patent in suit:

No. 3117. Fitzgerald, D. June 4, 1843. Safe.

OTHER SUITS ON SAME PATENT:

Wilder v. Adams, 1846. 2 W. & M. 329.

Wilder v. McCormick, 1846. 2 Blatch. 31; Fish. Pat. Rep. 128.

Notes and Citations.

OTHER SUITS ON SAME PATENT—*Continued.*

- Adams *v.* Edwards, 1848. 1 Fish. 1.
Wilder *v.* Gayler, 1849. 1 Blatch. 511 ; Fish. Pat. Rep. 317.
Wilder *v.* Gaylor, 1850. 1 Blatch. 597 ; Fish. Pat. Rep. 387.
Rich *v.* Lippincott, 1853. 2 Fish. 1 ; 1 Pitts. R. 31.
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Cited :

IN SUPREME COURT OF UNITED STATES :

- Moore *v.* Marsh, 1868. 7 Wall. 515 ; Bk. 19, L. ed. 37.
Railroad Co. *v.* Trimble, 1870. 10 Wall. 367 ; Bk. 19, L. ed. 948.
Seymour *v.* Osborne, 1870. 11 Wall. 516 ; Bk. 20, L. ed. 33.
Coffin *v.* Ogden, 1873. 18 Wall. 120 ; Bk. 21, L. ed. 821.
Littlefield *v.* Perry, 1875. 21 Wall. 205 ; Bk. 22, L. ed. 577.
Hendrie *v.* Sayles, 1879. 98 U. S. 546 ; Bk. 25, L. ed. 176.
Oliver *v.* Rumford Chem. Works, 1883. 109 U. S. 75 ; Bk. 27,
L. ed. 862.
Birdsell *v.* Shaliol, 1884. 112 U. S. 485 ; Bk. 28, L. ed. 768.
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IN CIRCUIT COURTS :

- Rich *v.* Lippincott, May, 1853. 2 Fish. 1 ; 1 Pitts. R. 31.
Burrows *v.* Wetherill, June, 1854. 1 MacA's Pat. Cases, 315.
Clum *v.* Brewer, October, 1855. 2 Curt. 506.
Sargent *v.* Seagrave, November, 1855. 2 Curt. 553.
Ransom *v.* Mayor of New York, December, 1856. 1 Fish. 252.
Potter *v.* Holland, September, 1858. 4 Blatch. 206 ; 1 Fish.
357.
Baldwin *v.* Sibley, October, 1858. 1 Cliff. 150.
Babcock *v.* Degener, January, 1859. 1 MacA's Pat. Cases, 607.
Cahoon *v.* Ring, February, 1859. 1 Cliff. 592 ; 1 Fish. 397.
Sturtevant *v.* Greenough, June, 1860. Ms. D. C.

Notes and Citations.

IN CIRCUIT COURTS—*Continued.*

- In re Dedericke*, December 4, 1860. Ms. D. C.
Johnson v. Root, October, 1862. 2 Cliff. 108; 2 Fish. 291.
Chase v. Delless, February, 1863. Ms. D. C.
White v. Allen, November, 1863. 2 Cliff. 224; 2 Fish. 440.
Hall v. Bird, June, 1869. 6 Blatch. 438; 3 Fish. 595.
Hartshorn v. Tripp, January, 1870. 7 Blatch. 120.
Perry v. Corning, March, 1870. 7 Blatch. 195.
Chambers v. Smith, June, 1870. 7 Phila. Rep. 575; 5 Fish. 12.
Farrington v. Gregory, September, 1870. 4 Fish. 221.
Sanford v. Messer, April, 1872. 1 Holmes, 149; 2 O. G. 470; 5 Fish. 411.
Reeves v. Keystone Bridge Co., April, 1872. 5 Fish. 456; 9 Phila. 368; 1 O. G. 466.
Russell & Erwin M'fg Co. v. Mallory, September, 1872. 10 Blatch. 140; 5 Fish. 632; 2 O. G. 495.
Hill v. Whitcomb, February, 1874. 1 Holmes, 317; 1 Ban. & Ard. 34; 5 O. G. 430.
North-western Fire Extinguisher Co. v. Phila. Fire Extinguisher Co., April, 1874. 1 Ban. & Ard. 177; 6 O. G. 34; 10 Phila. Rep. 227.
Emmons v. Sladdin, December, 1875. 2 Ban. & Ard. 199; 9 O. G. 352.
Shoup v. Henrici, March, 1876. 2 Ban. & Ard. 249; 9 O. G. 1162; 11 Phila. R. 514.
Albright v. Celluloid Harness Trimming Co., June, 1877. 2 Ban. & Ard. 629; 12 O. G. 227.
Bullock Printing Press Co. v. Jones, January, 1878. 3 Ban. & Ard. 195; 13 O. G. 124.
Pickering v. McCullough, May, 1878. 3 Ban. & Ard. 279; 13 O. G. 818; 6 Rep. 101.
Hammond v. Hunt, February, 1879. 4 Ban. & Ard. 111.
Nelson v. McMann, April, 1879. 16 Blatch. 139; 4 Ban. & Ard. 203; 16 O. G. 761.
Theberath v. Celluloid M'fg Co., July, 1880. 5 Ban. & Ard. 577; 3 Fed. Rep. 143; 10 Rep. 326.
U. S. Stamping Co. v. Jewitt, November, 1880. 18 Blatch. 469; 18 O. G. 1529; 7 Fed. Rep. 869.
Wilson v. Coon, December, 1880. 18 Blatch. 532; 19 O. G. 482; 6 Fed. Rep. 611.
Murray v. Ager, January, 1881. 20 O. G. 1311; 11 Rep. 698.

Notes and Citations.

IN CIRCUIT COURTS—*Continued.*

- Davis *v.* Brown, May, 1881. 19 Blatch. 263 ; 20 O. G. 1021 ; 9 Fed. Rep. 647.
- Searls *v.* Bouton, March, 1882. 20 Blatch. 426 ; 12 Fed. Rep. 140 ; 21 O. G. 1784 ; 13 Rep. 456.
- Ingalls *v.* Tice, May, 1882. 14 Fed. Rep. 297 ; 22 O. G. 2160 ; 13 Rep. 676.
- Gamewell Fire-Alarm Tel. Co. *v.* City of Brooklyn, November, 1882. 14 Fed. Rep. 255 ; 22 O. G. 1978 ; 15 Rep. 40.
- Wilson *v.* Chickering, February, 1883. 14 Fed. Rep. 917 ; 23 O. G. 1730.
- Fire Extinguisher M'fg Co. *v.* Graham, May, 1883. 16 Fed. Rep. 543 ; 24 O. G. 793.
- Consol. Electric Light Co. *v.* Edison Electric Light Co., 1885. 25 Fed. Rep. 719 ; 33 O. G. 1597.
- Hewitt *et al.* *v.* Penn. Steel Co., May, 1885. 24 Fed. Rep. 367 ; 31 O. G. 1687.
- Cottle *v.* Kremenz, November, 1885. 25 Fed. Rep. 494.
- Dick *v.* Struthers, September, 1885. 25 Fed. Rep. 103 ; 34 O. G. 131 ; 20 Rep. 643.
- Bogart *v.* Hinds, November, 1885. 25 Fed. Rep. 484 ; 33 O. G. 1268.
- Pontiac Knit Boot Co. *v.* Merino Shoe Co., June, 1887. 31 Fed. Rep. 286.
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IN DECISIONS OF COMMISSIONER OF PATENTS :

- Duchemin *v.* Richardson & Stein, April, 1870. C. D. 1870, p. 31.
- W. A. Kirby *v.* Samuel Johnson, April, 1872. 1 O. G. 405.
- Hyatt & French, December, 1873. 4 O. G. 609.
- Chambers & Mendham *v.* Duncan, Wilson & Lander, October, 1876. 10 O. G. 787.
- Ackerman *v.* Archer, February, 1879. 15 O. G. 562.
- Harmet *v.* Reese, May, 1882. 21 O. G. 1875.
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Notes and Citations.

IN STATE COURTS :

- Pitts v. Jameson*, June, 1853. 15 Barb. N. Y. 310.
Buss v. Putney, January, 1859. 38 N. H. Rep. 44.
Kempton v. Bray, March, 1868. 99 Mass. 350.
Union M'fg Co. v. Lounsbury, December, 1869. 41 N. Y. 363.
Hollida & Ball v. Hunt, September, 1873. 70 Ill. Rep. 109.
May v. Page, February, 1875. 60 N. Y. 628.
Barnes v. Morgan, March, 1875. 3 Hun. (N. Y.) 703.
Jackson v. Allen, March, 1876. 120 Mass. 64.
Marston v. Swett, May, 1876. 66 N. Y. 206.
Blakeney v. Goode, December, 1876. 30 Ohio S. Rep. 350.
Springfield v. Drake, December, 1876. 6 Rep. 722.
Gillett v. Bate, October, 1881. 86 N. Y. 87 ; 10 Abb. N. C. 88.
Wilch v. Phelps, January, 1883. 14 Neb. Rep. 134.
Maurice v. Devol, December, 1883. 23 W. Va. Rep. 247.
Horne v. Chatam & Co., 1885. 64 Texas Rep. 36.
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IN TEXT-BOOKS :

- 2 Abb. Pat. Law, 1886, pp. 98, 100, 108, 282, 284, 324.
Merwin on Pat. Invt., 1883, pp. 101, 119, 636, 638, 639, 648, 651,
668, 670, 677.
Walker on Pat., 1883, pp. 42, 48, 67, 196, 197, 207, 216, 291.
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Statement of the case.

CHARLES J. GAYLER AND LEONARD BROWN,
PLAINTIFFS IN ERROR, v. BENJAMIN G. WILDER.

10 How. 509-510. Dec., 1850.

[Bk. 13, L. ed. 517; 1 Whit. 608; Fish. Pat. Rep. 537.]

Same case, 10 How. 477 [p. 188, *ante*].

Motion to reopen after judgment pronounced.

1. After judgment pronounced, a motion to open the judgment for the purpose of amending the bill of exceptions and rehearing the case upon the ground of the omission of material evidence refused (p. 237).

At a subsequent day of the term, a petition was filed by the plaintiffs in error, that the foregoing case might be reopened for the purpose of amending the bill of exceptions, and reargued on such amended bill.

The petition recited certain portions of the opinion of this court in the case relating to the Conner safe, wherein the court, after recapitulating the evidence applicable thereto, as well as the instruction given by the court below, decide that there was no error in such instruction, which "put it to the jury to say, whether this safe had been finally forgotten or abandoned before Fitzgerald's invention, and whether he was the original inventor of the safe for which he had obtained the patent; directing them, if they found these two facts, that their verdict must be for the plaintiff." The petition then avers, that the existence and use of the Conner safe, from the time of its construction to the time of the trial, was proved in the court below, and that it was so stated in a bill of exceptions prepared by the counsel of the petitioners and submitted to the court. That the original plaintiff did not make any specific objections to petitioners' statement of the evidence as to the Conner safe, (as is alleged

Opinion of the court.

to be the practice settled by the Supreme Court of New York,) but proposed a different bill of exceptions as a substitute therefor, which the court below adopted, against the remonstrance of petitioners' counsel. The petition then insists, that if the facts stated in petitioners' bill of exceptions respecting the Conner safe had been set forth substantially in any bill of exceptions, this court, upon the principles contained in their opinion, must have determined this cause in favor of plaintiffs in error.

Mr. Coxe moved for a reargument on the grounds stated in the petition.

Mr. Chief Justice TANEY delivered the opinion of the court.

This case was argued early in the present term, and the judgment of the Circuit Court affirmed.

A motion is now made to open the judgment for the purpose of amending the bill of exceptions and rehearing the case, upon the ground that material evidence offered by the plaintiffs in error, which might have influenced the judgment of this court, has been omitted in the bill of exceptions contained in the record.

If any error or mistake was committed in framing this exception, it might undoubtedly have been corrected by a *certiorari*, if the application had been made in due time and upon sufficient cause. But this application is too late, even if the evidence which the plaintiffs in error propose to introduce would have influenced the decision. We by no means intend to say that it would have done so. But they rested satisfied with the exception as it stood; made no objection to it here; and argued the case and awaited the judgment of the court upon the evidence as stated in the exception. After that judgment has been pronounced, it is too late to say that the statement was imperfect or erroneous, and to make a new case by the introduction of new evidence, and a new exception.

The motion is therefore

OVERRULED.

Notes and Citations.

Patent in suit:

No. 3117. Fitzgerald, D. June 4, 1843. Safe.

OTHER SUITS ON SAME PATENT :

Wilder *v.* Adams, 1846. 2 W. & M. 329.

Wilder *v.* McCormick, 1846. 2 Blatch. 31 ; Fish. Pat. Rep. 128.

Adams *v.* Edwards, 1848. 1 Fish. 1.

Wilder *v.* Gayler, 1849. 1 Blatch. 511 ; Fish. Pat. Rep. 317.

Gayler *v.* Wilder, 1850. 10 How. 477-510 ; 1 Whit. 576 ; Fish.

Pat. Rep. 497, 537. [p. 188, *ante*].

Wilder *v.* Gayler, 1850. 1 Blatch. 597 ; Fish. Pat. Rep. 387.

Rich *v.* Lippincott, 1853. 2 Fish. 1 ; 1 Pitts. R. 31.

IN TEXT BOOKS :

Curt. on Pats., 4th ed., §§ 85, 86, 93, 173, 211, 212, 346.

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Syllabus.

JULIA P. HOTCHKISS, EXECUTRIX OF JOHN G. HOTCHKISS, DECEASED, JOHN A. DAVENPORT, AND JOHN W. QUINCY, PLAINTIFFS IN ERROR, v. MILES GREENWOOD AND THOMAS WOOD, PARTNERS IN TRADE UNDER THE NAME OF M. GREENWOOD & CO.

11 How. 248-272. Dec., 1850.

[Bk. 13, L. ed. 683 ; 1 Whit. 610 ; Fish. Pat. Rep. 539.]

Affirming *ibid.*, 4 McL. 456.

Substitution of material. Invention. Particular patent wanting in invention.

1. The substitution of a new composition of matter for the material out of which one old element in an old arrangement was made, if it resulted in a new and useful article, would be a new and patentable manufacture (p. 264).
2. Patent No. 2197, J. G. Hotchkiss, July 29, 1841, Knobs for Doors, construed to be for a substitution of material for that out of which an old element in an old arrangement was made, the use of the substituted material to make such element being also old. *Held* that the difference was formal and wanting in invention (p. 264).

[Citations in dissenting opinion of the Court:]

- (1) Webster on Subject Matter, 25, pp. 269-272.
- (2) Curtis on Patents, § 6, 7, 8, pp. 269-272.
- (3) Odiorne v. Winkley, 2 Gallis, 51, p. 269.
- (4) Lowell v. Lewis, 1 Mason, 182, p. 269.
- (5) 2 Kent's Com. 371, p. 270.
- (6) Earle v. Sawyer, 4 Mason, 1, 6, p. 270.
- (7) Crane v. Price, Webs. Pat. Cases, 411 ; 3 Am. & Eng. 437, p. 270.
- (8) Howe v. Abbott, 2 Story, 190, p. 271.
- (9) Winans v. R. R., 2 Story, 412, p. 271.
- (10) Losh v. Hague, Webs. Pat. Cases, 207 ; 2 Am. & Eng. 477, 501, 510, p. 271.
- (11) Curtis on Patents, 87, p. 271.
- (12) Webster on Subject Matter, 29, 30, p. 271.

Statement of the case.

(13) Phillips on Patents, 122, p. 272.

(14) Nelson's Case, Webster's Pat. Cases, 14, p. 272.

(15) Hall's Patent, Webster's Pat. Cases, 79, p. 272.

(16) Kneass v. Schuylkill Bank, 4 Wash. 9, 11, p. 272.

THIS case was brought up by writ of error from the Circuit Court of the United States for the District of Ohio.

It was a question involving the validity of a patent-right under the following circumstances. The patent and specification were as follows :

"The United States of America to all to whom these letters patent shall come :

"Whereas, John G. Hotchkiss, New Haven, Conn., John A. Davenport, and John W. Quincy, New York, have alleged that they have invented a new and useful improvement in making door and other knobs, of all kinds of clay used in pottery, and of porcelain, which they state has not been known or used before their application ; have made oath that they are citizens of the United States, that they do verily believe that they are the original and first inventors or discoverers of the said improvement, and that the same hath not, to the best of their knowledge and belief, been previously known or used : have paid into the treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose : These are, therefore, to grant, according to law, to the said John G. Hotchkiss, John A. Davenport, and John W. Quincy, their heirs, administrators, or assigns, for the term of fourteen years from the 29th day of July, 1841, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used the said improvement, a description whereof is given, in the words of the said Hotchkiss, Davenport, and Quincy, in the schedule hereunto annexed, and is made a part of these presents.

"In testimony whereof, I have caused these letters to be made patent, and the seal of the Patent Office has been hereunto affixed.

Statement of the case.

" Given under my hand, at the city of Washington, this 29th day of July, A. D. 1841, and of the independence of the United States of America the sixty-sixth.

" DANIEL WEBSTER,

" *Secretary of State.*

" Countersigned and sealed with the seal of the Patent Office.

" HENRY L. ELLSWORTH,

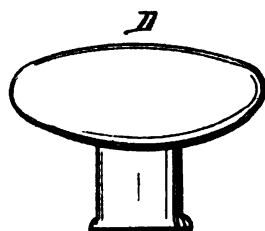
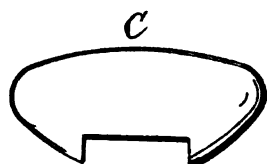
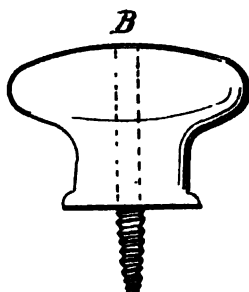
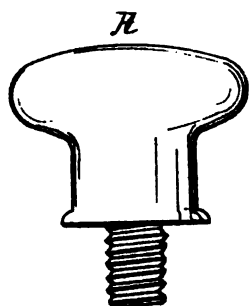
" *Commissioner of Patents.*"

" The schedule referred to in these letters patent, and making a part of the same.

" To all whom it may concern : Be it known, that we, John G. Hotchkiss, of the city and county of New Haven, and State of Connecticut, and John A. Davenport and John W. Quincy, both of the city, county, and State of New York, have invented an improved method of making knobs for locks, doors, cabinet furniture, and for all other purposes for which wood and metal or other material knobs are used. This improvement consists in making said knobs of potter's clay, such as is used in any species of pottery ; also of porcelain ; the operation is the same as in pottery, by moulding, turning, and burning and glazing ; they may be plain in surface and color, or ornamented to any degree in both ; the modes of fitting them for their application to doors, locks, furniture, and other uses will be as various as the uses to which they may be applied, but chiefly predicated on one principle—that of having the cavity in which the screw or shank is inserted, by which they are fastened, largest at the bottom of its depth, in form of a dovetail, and a screw formed therein by pouring in metal in a fused state. In the annexed drawing, A represents a knob with a large screw inserted, for drawers and similar purposes ; B represents a knob with a shank to pass through and receive a nut ; C, the head of the knob calculated to receive a metallic neck ; D, a knob with a shank calculated to receive a nut on the outside or front. What we claim as our invention, and desire to secure by letters patent, is the

Hotchkiss, Davenport & Quincy,
Knob.

N^o 2,197. Patented July 29, 1841.



Witnesses:
Samuel H. Quincy

Inventor:
Davenport & Quincy

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manufacturing of knobs, as stated in the foregoing specifications, of potter's clay, or any kind of clay used in pottery, and shaped and finished by moulding, turning, burning, and glazing ; and also of porcelain.

" JOHN G. HOTCHKISS.

" J. A. DAVENPORT.

" JOHN W. QUINCY.

" Witnesses : ALPS. SHERMAN, JAMES MONTGOMERY."

In October, 1845, the plaintiffs in error brought an action, in the Circuit Court of the United States for Ohio, against the defendants, for a violation of the patent-right.

The defendants pleaded not guilty, and gave the following notice :

" The plaintiffs will please take notice, that on the trial of the above cause the defendants will give in evidence to the jury, that the said John G. Hotchkiss, John A. Davenport, and John W. Quincy were not the original and first inventors and discoverers of making or manufacturing knobs of potter's clay or of porcelain. They will also prove that the making of knobs from potter's clay, and also from porcelain and other clays used by potters, was known and practised, and such knobs were made, used, and sold in the cities of New York, Albany, Troy, and Brooklyn, in the State of New York ; also in Jersey City, in the State of New Jersey ; also in the city of Philadelphia, State of Pennsylvania ; by John Mayer, Thomas Frere, William Lundy, Jr., and Charles W. Vernerck, residing in the city of New York ; also by John Harrison, residing in Jersey City in the State of New Jersey ; and by Littlefield, Hat-trick & Shannon, of Philadelphia, in the State of Pennsylvania, long before the 29th day of July, in the year 1841, the date of the patent in the declaration mentioned. They will also prove that similar knobs were manufactured of potter's clay, and also of porcelain, and were also used and sold, long prior to the said 29th day of July, 1841, in the town of Burslem, in Staffordshire, England ; also in the town of Sandyford, near Tunstall ; also in the town of

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Hanley, Staffordshire, England ; also at Woodenbose village, in the county of Derbyshire, England. And the said defendants will prove the manufacture and use of said knobs, so made of clay and porcelain, by Godfrey Webster and John Webster, who now reside in East Liverpool, Columbiana county, Ohio ; and also by Enoch Bulloch, who now resides in Wellsville, in the same county ; also by Daniel Bennett, who now [resides] in the city of Pittsburg, Pennsylvania,—all of whom formerly resided in Staffordshire, England. The defendants will also prove that the said patentees, John G. Hotchkiss, John A. Davenport, and John W. Quincy, at the time of making application for the said patent, well knew that the said knob so patented had been previously made and sold in a foreign country, to wit, in the kingdom of Great Britain, and also in Germany, and did not believe themselves to be the first inventors or discoverers of manufacturing knobs from potter's clay or porcelain. All of which will be insisted upon in bar of the action.

CHARLES FOX,

“ Attorney for the Defendants.”

And in July, 1848, the following additional notice :

“ The plaintiffs in this cause will please take notice, that on the trial of the cause the defendants will give in evidence to the jury, that the said John G. Hotchkiss, John A. Davenport, and John W. Quincy were not the original and first inventors and discoverers of making or manufacturing knobs of potter's clay, or of porcelain. They will also prove, that knobs made of potter's clay, and of porcelain and other clays, had been previously publicly used and sold in the cities of New York, Albany, Troy, and Brooklyn, in the State of New York ; also in Jersey City, in the State of New Jersey ; also in New Haven and Middletown, in the State of Connecticut, long before and at the date of the patent under which the plaintiffs claim. The defendants will likewise prove, on said trial, that John Mayer, residing in Staten Island ; Hoope & Lee, residing in the city of Brooklyn, in the State of New York ; Edward H. Higgins,

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John Penfield, John Duntze, residing in New Haven, in the State of Connecticut; Matthew Fifo, William Fifo, Jane Fifo, John C. Smith, and certain persons doing business under the name of Smith, Fifo & Co., residing in the city of Philadelphia, in the State of Pennsylvania, as early as the year 1831, and from that time on, and until and at the time of obtaining the patent under which the plaintiffs claim, and before the alleged discovery and invention set forth in said patent, made, manufactured, and publicly sold and used knobs made of potter's clay, and of other clays, and of porcelain, in the several cities and places named."

The following bill of exceptions was taken during the trial :

"The plaintiffs offered in evidence the patent, specifications, and drawings, and other evidence tending to prove the originality, novelty, and usefulness of the inventions as described in said specification; and other evidence tending to show the violation of said patent by the defendant, and rested. Whereupon the defendants offered evidence tending to show that the said alleged invention was not originally invented by any one of the said patentees; and that if said invention was original with any of the said patentees, it was not the joint invention of all of said patentees; and other evidence tending to show that the mode of fastening the shank or collet to the knob, adopted by the plaintiffs, and in said specification described, had been known and used in Middletown, Connecticut, prior to the alleged inventions of the plaintiffs, as a mode of fastening shanks or collets to metallic knobs. And the evidence being closed, the counsel for the plaintiffs insisted, in the argument, that although the knob, in the form in which it is patented, may have been known and used in the United States prior to their invention and patent; and although the shank and spindle by which it is attached may have been known and used in the United States prior to said invention and patent, yet if such shank and spindle had never before been attached to a knob made of potter's clay or porcelain; and if it required skill and thought and invention

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to attach the said knob of clay to the metal shank and spindle, so that the same would unite firmly and make a solid and substantial article of manufacture ; and if the said knob of clay or porcelain so attached were an article better and cheaper than the knob theretofore manufactured of metal or other materials, that the patent was valid, and asked the court so to instruct the jury, which the court refused to do ;—but, on the contrary thereof, instructed the jury, that if knobs of the same form and for the same purposes with that described by the plaintiffs in their specifications, made of metal or other material, had been known and used in the United States prior to the alleged invention and patent of the plaintiffs ; and if the spindle and shank, in the form used by the plaintiffs, had before that time been publicly known and used in the United States, and had been theretofore attached to metallic knobs by means of the dovetail and the infusion of melted metal, as the same is directed, in the specification of the plaintiffs, to be attached to the knob of potter's clay or porcelain ; so that if the knob of clay or porcelain is the mere substitution of one material for another, and the spindle and shank be such as were theretofore in common use, and the mode of connecting them to the knob by dovetail be the same as was theretofore in use in the United States, the material being in common use, and no other ingenuity or skill being necessary to construct the knob than that of an ordinary mechanic acquainted with the business, the patent is void, and the plaintiffs are not entitled to recover. The counsel for the defendants asked the court to instruct the jury, that if they should be satisfied that any one of the patentees was the original inventor of the article in question, and that the same was new and useful, yet if they should be satisfied from the evidence that all the patentees did not participate in the invention, the patent is void, and the plaintiffs cannot recover. The court gave the above, modified by the remark, that the patent was *prima facie* evidence that the invention was joint, though the fact might be disproved on the trial ; and the court remarked, there was no evidence

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except that of a slight presumption against the joint invention as proved by the patent ; to which refusal of the court to instruct the jury as asked by the counsel for the plaintiffs, and to the instructions given, the plaintiffs, by their counsel, except, and pray the court to sign this their bill of exceptions.

“ JOHN McLEAN.” [SEAL.]

Upon this exception, the case came up to this court, and was argued by *Mr. Ewing*, for the plaintiffs in error, and *Mr. Chase*, for the defendants in error.

Mr. Ewing, for the convenience of reference, divided the instructions of the court into paragraphs, as follows :

The court instructed the jury—

1. That if knobs of the same form and for the same purposes with that described by the plaintiffs in their specifications, made of metal or other material, had been known or used in the United States prior to the alleged invention and patent of the plaintiffs ;

2. And if the spindle and shank, in the form used by the plaintiffs, had before that time been publicly known in the United States, and had theretofore been attached to metallic knobs by means of the dovetail and infusions of melted metal, as the same is directed, in the specifications of the plaintiffs, to be attached to the knob of potter's clay or porcelain ;

3. So that if the knob of potter's clay or porcelain is the mere substitution of one material for another, and the spindle and shank be such as were theretofore in use in the United States ;

4. The material being in common use, and no other ingenuity or skill being necessary to construct the knob than that of an ordinary mechanic acquainted with the business ;

5. The patent is void, and the plaintiffs are not entitled to recover.

It will be seen that the court, in the paragraph of the instructions which I have numbered 4, take upon themselves

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to determine, in the negative, the question "whether it required skill and thought and invention to attach the knob of clay to the metal shank and spindle, so that they would unite firmly and make a solid, substantial article of manufacture," instead of submitting it to the jury. It was a question of fact, not arising upon the construction of a written or printed paper, but depending upon evidence, and ought to have been submitted to the jury if material in the case.

It will also be seen that the court rejected entirely one clause of the instructions asked, namely, "whether the knob of clay or porcelain thus attached to the metallic shank and spindle were an article better and cheaper than the knob theretofore manufactured of metal or other materials," and gave nothing as a substitute for it, leaving the jury to understand that it was immaterial whether it were a better and cheaper article or not.

The court seemed to have been of opinion, first, that it could not, in the nature of things, require skill and thought and invention so to unite the metal and clay as to make them, together, a firm and substantial article of manufacture; or, second, that the new manufacture produced by the substitution of one material for another in part of the article, and the uniting of the two materials, though of dissimilar qualities, and never before united for that purpose, was not patentable, even though it required skill and thought and invention to unite them, and though the new manufacture thus produced were cheaper and better than any like article ever before known.

1st. The first position, I respectfully contend, the court had no right to assume. The counsel had the same right to appeal from the court to the jury on a question of fact, that they had to appeal from that tribunal to this on a question of law. The right to refer this question to the jury was distinctly insisted upon by counsel, and as distinctly denied by the court. For this, I contend, the judgment ought to be reversed.

But if the court had the right to settle this question of

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fact, as they would have to determine the effect of a written instrument, I think I am able to show that they erred in their opinion on the question.

Knobs had been in use many hundred years ; potter's ware and porcelain, many thousand ; but no one ever before succeeded in uniting the clay and the iron so as to make of the two a substantial and useful article. There are many difficulties in uniting them, which can be best explained by a careful examination of the new manufacture itself ; and if it were proper for the court below to pronounce upon the question connected with it absolutely, on inspection, as a legal conclusion drawn from the article itself, it is equally so for the court here to inspect the article, and determine on inspection whether the decision below was right. Curtis on Patents, secs. 10, 14, (note 2,) 15, 16 ; Webster on Patents, 29, 30.

2d. But the second alternative position is the one on which I understood the court to rest, namely, that the new manufacture produced by the substitution of one material for another, as in this case the substitution of clay or porcelain in the place of metal for the knob, using metal as theretofore for the collet and spindle, was not patentable, though the materials are dissimilar, and were never before united for that or a like purpose, and though it required skill and thought and invention to unite them, and though the new manufacture thus produced was cheaper and better than any like article ever before known.

This position cannot be maintained, either by reason or authority. The clay or porcelain knob, connected with the metallic shank, is a new and useful manufacture, according to the letter, as well as the spirit and intent, of our statute.

1st. "That it is 'a manufacture,' can admit of no doubt ; it is a vendible article, produced by the art and hand of man." Per C. J. Tindall, in *Cornish v. Keene*, Webs. on Pat. 517 [2 Am. & Eng. 139, 406] ; *Boulton v. Bull*, 2 H. Black. 492, 495 [1 Am. & Eng. 59, 97], and 2 H. Black. 463, 464, note (a) ; and *Rex v. Wheeler*, 2 Barn. & Ald. 349, 350 [1 Am. & Eng. 317].

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2d. As the court refused to submit to the jury the question whether the article produced by the substitution of clay or porcelain for metal, &c., in the manufacture of knobs, was better and cheaper than the old article, the charge must rest on the admission that it was better and cheaper. The manufacture which is the result of that combination is, therefore, by concession, "a useful manufacture."

And it is clear that it is, in fact, a very useful manufacture. The potter's ware and porcelain knobs are almost everywhere taking the place of the metal knob.

3d. It is also a new manufacture.

"The mere substitution of one metal for another in a particular manufacture might be the subject of a patent, if the new article were better, more useful, or cheaper than the old." Curtis on Patents, sec. 8, note 3.

"No one can say that a silver and an earthen teapot are the same manufacture." Webster on Patents, page 25, note.

As little can any one say that a metal and an earthen knob are the same manufacture.

"If there be anything material and new which is an improvement of the trade, that will be sufficient to support a patent." Per Buller, J., in *Rex v. Arkwright*, Webster's Patent Cases, 71 [1 Am. & Eng. 29]. See Godson on Patents, 63, 70, 124, 126; also Hindmarch on Patents, 124, 126. A list of cases sustaining this point are collected in Curtis on Patents, sections 9 and 10,—Lord Dudley's patent being the substitution of pit-coal for charcoal in the manufacture of iron (Webster's Patent Cases, 14); Neilson's patent, the hot blast instead of the cold (Id. 152); Crane's patent, the substitution of anthracite for soft coal in connection with the hot blast (Id. 273); Durome's patent, the application of charcoal, long used in filtering, to the filtering of sugar (Id. 152); in Ball's case, the use of the flame of gas instead of the flame of oil to singe off the superfluous fibres of lace (Id. 99, and note, in which many other similar cases are referred to).

Our invention is a combination of dissimilar materials

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(not a composition of matter) never before united, which produces a new manufacture. Tindall, C. J., in *Crane v. Price et al.* [3 Am. & Eng. 437], in speaking of the hot-air blast combined with anthracite coal in the production of iron, says :

"We are of opinion, that if the result produced by such combination is either a new article or a cheaper article to the public than that produced by the old method, such combination is an invention or manufacture intended by the statute, and may well become the subject of a patent."

"And it falls within the doctrine of Lord Eldon, that there may be a valid patent for a new combination of materials previously in use for the same purpose, or even for a new method of applying such materials." Webster's Patent Cases, 409.

Mr. Curtis, after a review of the cases, says, sec. 14: "It appears, then, according to the English authorities, that the amount of the invention may be estimated from the result, although not capable of being directly estimated on a view of the invention itself." And in sec. 15: "The utility of the change is the test to be applied for the purpose. As there cannot be a decidedly new result without some degree of invention to effect that result, where a real utility is seen to exist, a sufficiency of invention may be presumed." And Mr. Webster, in his treatise on the subject-matter, says that "whenever the change and its consequences, taken together and viewed as a sum, are considerable, there must be a sufficiency of invention to support a patent." Pages 29, 30.

Our courts have applied the same tests as the courts in England. Curtis on Patents, sec. 18.

As in the case of *Kneass v. The Schuylkill Bank*, 4 Wash. 9-11, where steel plates were used instead of copper plates in printing bank-notes, the question left to the jury was, whether the substitute of steel for copper plates was an improvement. See Curtis on Patents, sec. 24 and note 1, citing *Ryan v. Godwin*, 3 Sumner, 514, 518.

In the case at bar, the question of skill and invention,

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and the question of utility, which are the universally acknowledged test questions in this class of cases, were withheld from the jury ; the question of skill and invention determined by the court ; the question of utility thrown out of the case.

We have, then, by all the rules heretofore recognized in this class of cases, "a new and useful manufacture."

The letter of the statute embraces it ; so, clearly, does the spirit and intent of the act. It is indeed an invention of much more than common importance and merit. It is the combination of two materials, metal and earth, never before united in this manner, so as to give to the new manufacture the strength of iron, with the durability and beauty of the clay or porcelain ; its exemption from the corrosive action of acids and other chemical agents, and its consequent freedom from tarnish.

There are some cases of the application of old inventions to obvious new uses, for which courts have refused to sustain a patent. They are referred to by Lord Abinger in *Lost v. Hagen*, Webster's Patent Cases, 208 [2 Am. & Eng. 477, 501, 510] ; Curtis, sec. 7, note 2. Or the case of a double use, where no new manufacture or a cheapening of the old is the result. *Ib.*, note 3.

In the case of *Rex v. Fusell* [1 Am. & Eng. 388], the dampening of cloth by steam instead of hot water would have been held patentable had it been useful. It was frivolous. *Crane v. Price* [3 Am. & Eng. 437], Webster's Patent Cases, 409.

And it is said by Mr. Webster, in a note to *Crane v. Price*, and others, "that no case is reported or mentioned in any of the books in which a patent has failed simply on the ground of the invention not being the subject-matter of letters patent,—some other ground, as want of novelty or defective specification, having been the real cause of failure."

The counsel for the defendants in error made the following points :

The court now is called upon to decide whether this patent, or whether any patent, can be sustained merely for ap-

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plying a common, well-known material to a use to which it had not before been applied, without any new mode of using the material, or any new mode of manufacturing the article sought to be covered by the patent.

And here we will first ask the court for a construction of this patent. Does the patent and specification confine its claim to a mere right to use clay or porcelain for the purpose of making or manufacturing knobs, or does it claim to cover the manufacturing knobs of clay and porcelain in the manner or mode set forth in the specification?

The language of the claim, in the closing part of the specification, is as follows:

“What we claim as our invention, and desire to secure by letters patent, is the manufacturing of knobs, as stated in the foregoing specification, of potter's clay, or any kind of clay used in pottery, and shaped and finished by moulding, turning, burning, and glazing,” &c. The patentees had previously stated, in their specification, that “the modes of fitting them for their application to doors, locks, and furniture, and other uses will be as various as the uses to which they may be applied, but chiefly predicated on one principle—that of having the cavity in which the screw or shank is inserted, by which they are fastened, largest at the bottom of its depth, in form of a dovetail, and a screw formed therein by pouring in metal in a fused state.”

The concluding clause of the specification then claims by the patent to cover the manufacture of knobs made of clay in the manner described in the specification, and the great principle of the manner of forming the knob is by a cavity which, with hot metal poured in, will make a dovetail-shaped fastening or holding of the knob on to the shaft.

We think it clear the claim is for manufacturing knobs of clay in the particular manner specified, so that, when manufactured, they shall be held to the shank by force of the dovetail.

We think it clear, that had not the defendants established the fact on the trial, that knobs for door-handles and for locks had been previously patented to a person in Middle-

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town, which were made and fastened in the same identical way as the ones described in the plaintiffs' specification, the plaintiffs would have claimed the right to recover against us for making and fastening the knobs in that particular way. We suppose the plaintiffs, in the absence of such testimony, would have claimed that their specification covered the form and manner of fastening the knobs to the handle, as well as the material out of which the knob was made. Indeed, such was their claim, made at the trial of the cause.

It is now well settled, that, in order fairly to construe a patent, the whole specification must be examined ; and if we can gather from the whole paper the meaning of the inventor, and the extent of his claim, the object of the statute is attained. 2 Phillips on Patents, 169, 170 ; [Ryan v. Goodwin] 3 Sumner, 520 ; Curtis on Patents, sec. 123, 130, 141 ; [Barrett v. Hall] 1 Mason, 477.

This case is very similar to the case of Barrett *et al.* v. Hall, 1 Mason, 477, where Judge STORY held, that, taking the whole specification, it was manifest the patentee claimed as his invention a mode of dyeing and finishing silks, and not a mode of dyeing alone ; and the patent being too broad, the whole not being his invention, the patent was void.

It is also well settled, that whatever appears to be covered by the claim of the patentee as his own invention must be taken as part of the claim ; for courts of law are not at liberty to reject any part of the claim ; and, therefore, if it turns out that anything claimed is not new, the patent is void, however small or unimportant such asserted invention may be. Curtis on Patents, sec. 131 ; [Winans v. R. R. Co.] 2 Story, 412.

We claim, therefore, that this is in fact a claim for making knobs of clay, combined with the particular manner of fastening the same to the shank by a dovetail fastening, and is in truth a claim for a combination.

If we are correct in this view of the case, then it is clear that the patent is void, as the jury have found that the

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claim of fastening knobs to handles by dovetail fastenings was not new, but was known and used before the plaintiffs' patent. *Winans v. Boston and Providence Railroad Co.*, 2 Story, 413 ; *Hill v. Thompson*, Webster's Patent Cases, 226, 228 [1 Am. & Eng. 285].

But suppose that the claim in the patent was the mere right to make knobs of clay or porcelain, without regard to any particular mode of making or fastening the knobs into the shaft, the question arises, could such a patent be sustained ?

The plaintiffs claim that they have the right to the exclusive use of clay for fourteen years to come, in making knobs for doors, locks, and drawers, by making such a claim known at the Patent Office. They don't even claim to be the discoverers of clay ; but they claim the exclusive right to appropriate and use clay in making knobs.

It is a strange claim, to say the least of it. According to the principle of the claim, one man may claim a patent for making a stove of sheet-iron ; another may claim a patent for making stoves of cast-iron ; another may claim a patent for making stoves of copper ; and each may claim, not the right to make a stove of a particular form and shape only, or by any peculiar process of making, but the exclusive right to make all sorts and shapes of stoves out of the particular material named.

So another man claims the exclusive right of using ice to cool water ; another claims the exclusive right to use ice for cooling wine ; another, to use the same article to cool brandy ; and a physician claims the exclusive right to use the article of ice to cool a fevered patient's head.

Again, one man has been long accustomed to make window-sashes of pine wood ; another comes and says he can make window-sashes of cast-iron, and claims the exclusive right to make all the cast-iron sashes the country may want for the next fourteen years.

Another has discovered that he can make the whole of a house out of cast-iron ; he therefore claims the exclusive

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right to make all the cast-iron houses that are wanted for fourteen years to come.

Another says he has discovered that he can build splendid railroad-cars for the conveyance of passengers out of sheet copper or tin ; he therefore obtains a patent for the exclusive use of copper and tin in making such carriages.

Another discovers that tea-kettles have been made of cast-iron for years past, but tea and coffee pots have not as yet been made of that material, and he immediately obtains a patent for the exclusive right to make cast-iron tea and coffee pots for fourteen years.

We know that cast-iron has been extensively used for making machinery of different shapes and forms ; for making columns, fences, floors, and indeed everything whose shape can be impressed upon sand ; and can it be pretended that any one at this day can claim the right to make some new thing out of cast-iron, and thereby exclude all other persons from making the same article out of the same material ?

To allow such a claim, it appears to us, would be violating the spirit of the act of Congress. The object of the act of Congress is to encourage men to devote their time and talent in making new and useful discoveries in the arts, manufactures, and compositions of matter. Why does the act provide so carefully for new compositions of matter, if an individual could obtain a patent for a use of an element of matter without any composition at all ?

The patentee in this case is endeavoring to add a new clause to the Patent Law. He is claiming the right to apply a common element of nature to a new purpose, without the aid of any new mode or process of working it, and without combining it with any other portions of matter so as to make it a composition.

The only causes authorizing the issuing of a patent are declared and set forth in the sixth section of the act of 1836. That section enacts "that any person or persons, having discovered or invented any new and useful art, machine, manufacture, or composition of matter, or any new

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and useful improvements on any art, machine, manufacture, or composition of matter, not before known or used, &c., may make application."

To satisfy the terms of the statute, there must be some new art, machine, manufacture, or composition of matter discovered, or there can be no patent.

It is well settled, that a patent cannot be granted for a new use of the thing, or, as it is commonly stated, a double use. The application of an old machine to some new purpose is not the foundation of a patent; but an improvement of an old machine, in order to apply it to the same purposes more advantageously, is the subject of a patent. But in this latter case, it is the particular improvement made in the machine which constitutes the basis of the patent,—not the result.

If in the present case the patentees had invented an improvement in the mode of fastening the knobs to the handles, or if they had invented a new mode of making knobs out of clay or other materials, their patent might have been sustained; but we maintain they cannot obtain a patent for a new use, or double use, of the article of clay, any more than they could sustain a patent for a new use of an old machine.

It has been decided, that where a certain description of wheels had been used on other than railway carriages, a patent could not be sustained for the use of such wheels on railway carriages. Curtis, note to sec. 87. The court distinguished between applying a new contrivance to an old object, and applying an old contrivance to a new object. *Losh v. Hague*, Webster's Patent Cases, 207 [2 Am. & Eng. 477, 501, 510]. The learned judge stated that a patent cannot be had for applying a well-known thing, which might be applied to fifty thousand different purposes, to an operation which is exactly analogous to what was done before. 2 Story, 412.

So it has been held that a patent for curling palm-leaf for mattresses could not be sustained, where the same process had been long in use for curling hair. *Howe v. Abbott*, 2 Story, 190, 193.

In this latter case, the judge remarked that it was the

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mere application of an old process and old machinery to a new use,—the same as if a coffee-mill were employed to grind corn, or a flax-machine were employed to spin cotton. There must be some new mode or process to produce the result.

If new effects are produced by an old machine in its unaltered state, no patent can be supported for it, as such a patent would be for an effect only. [Sawin v. Guild] 1 Gallison, 478, 481.

So in the new use of medicines or compositions, as is said in *Boulton v. Hall*, 2 H. Bl. 487. Suppose the world were better informed than it is how to prepare Dr. Jayne's fever-powder, and an ingenious physician should find out that it was a specific cure for consumption, if given in particular quantities, could he have a patent for the sole use of Jayne's powders in consumption, or to be given in particular quantities? I think it must be conceded that such a patent would be void, and yet the use of the medicine would be new, and the effect of it as materially different from what is now known as life is from death.

So the same judge says the use of arsenic for curing agues could not be patented, because the medicine would not be new, and a new use of it is not the subject of a patent.

We claim, therefore, that this patent cannot be sustained as a patent for the exclusive privilege of using clay for the manufacture of knobs, instead of brass, silver, or metallic compositions. That such a claim does not rise to the dignity of an invention or discovery, but is a mere substitution of one material in place of another, for making the same common article. There is no change proposed in the manner of working the clay, no improvement in machinery used to produce the result, and no new result is obtained; the same identical knobs are produced and applied in the same way; the only change is in the material used, and we suppose that a mere change of one material for another cannot be the subject of a patent.

The case, then, comes within the principle laid down in

Argument of counsel.

Phillips on Patents, page 113: "The use of the ordinary known materials cannot be monopolized by patent. We must understand this doctrine to be limited to known materials, and to such as naturally exist, whether known or not; for the discovery of a new elementary substance or material, by analysis or otherwise, does not give a right of a monopoly of it." 2 H. Bl. 487.

On the argument of this latter case, the court put the question to counsel, "Whether, if a man by science were to devise the means of making a double use of a thing known before, he could have a patent for that? It was rightly and candidly admitted that he could not." Page 486.

And Justice Eyre says of Hartley's patent: "He did not invent those means. The invention wholly consisted in the new manner of using, or, I would rather say, of disposing, a thing in common use, and which thing every man might make at his pleasure; and which, therefore, I repeat, could not, in my judgment, be the subject of the patent."

We claim that there can be no patent in the United States founded upon the material used, unless where a new combination of materials is made use of, and then it comes under that clause of the Patent Law which authorizes a patent for any new composition of matter.

Without a new composition of matter, or a new mixture of the ingredients used, or a new proportion of ingredients used, there can be no patent for the material used in the production of the article. To hold otherwise, would be to repeal this clause of the statute, or rather to add a new clause to it. The act has declared a man may obtain a patent for discovering a new composition, or mixing of substances, so as to produce a new substance; but it has not declared that any one can obtain a patent for the exclusive use of an element of matter, where no combination or mixture of different portions of matter is set forth.

Clay, and its suitability for being manufactured into articles of different shapes, and to be applied to different purposes, is well known. The mode of moistening and

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using it, and making it into knobs, teapots, plates, bowls, cups and saucers, &c., and of glazing, staining, and baking it, is also well known, and no change is proposed in these operations. The use of brass, iron, silver, and glass for the manufacture of knobs for doors and drawers, is also well known. The particular mode of fastening claimed by the plaintiffs is shown not to be new ; and, as before remarked, all that can be now claimed in this record, is the exclusive right to use clay instead of metal in making these knobs.

We know of no case in which such a claim has been sustained. We have shown, from the authorities, that the new use of an old machine to produce a new effect is not the subject of a patent.

We have shown that the new use of an old medicine or composition of matter cannot be patented ; and surely if a composition of matter (which requires mind and skill) could not be applied to a new use, the application of one of the substances of which the composition was made could not be applied to a new use, and thereby lay the foundation for a patent. And we have also shown that the substitution of one material for another is not a patentable subject.

We claim, therefore, in conclusion, that this patent is void—

1st. Because it claims in its specification to have invented the mode of fastening the knob to the handle, which the verdict of the jury has shown to be untrue, and therefore the claim is larger than the invention.

2d. Because a patent for the substitution of one material for another, without any combination, or any new mode or process of manufacturing the article, cannot be sustained.

3d. Because no patent for the manufacture of an article can be sustained, unless the particular mode of manufacturing the article is specified and is new, and the difference between the old and new mode of manufacturing is pointed out.

Mr. Justice NELSON delivered the opinion of the court.

This is a writ of error to the Circuit Court of the United States for the District of Ohio.

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The suit was brought against the defendants for the alleged infringement of a patent for a new and useful improvement in making door and other knobs of all kinds of clay used in pottery, and of porcelain.

The improvement consists in making the knobs of clay or porcelain, and in fitting them for their application to doors, locks, and furniture, and various other uses to which they may be adapted ; but more especially in this, that of having the cavity in the knob in which the screw or shank is inserted, and by which it is fastened, largest at the bottom and in the form of dovetail, or wedge-reversed, and a screw formed therein by pouring in metal in a fused state ; and, after referring to the drawings of the article thus made, the patentees conclude as follows :

“ What we claim as our invention, and desire to secure by letters patent, is the manufacturing of knobs, as stated in the foregoing specifications, of potter's clay, or any kind of clay used in pottery, and shaped and finished by moulding, turning, burning, and glazing ; and also of porcelain.”

On the trial, evidence was given, on the part of the plaintiffs, tending to prove the originality and usefulness of the invention, and also the infringement by the defendants ; and on the part of the defendants, tending to show the want of originality ; and that the mode of fastening the shank to the knob, as claimed by the plaintiffs, had been known and used before, and had been used and applied to the fastening of the shanks to metallic knobs.

And upon the evidence being closed, the counsel for the plaintiffs prayed the court to instruct the jury, that although the clay knob, in the form in which it was patented, may have been before known and used, and also the shank and spindle by which it is attached may have been before known and used, yet if such shank and spindle had never before been attached in this mode to a knob of potter's clay, and it required skill and invention to attach the same to a knob of this description, so that they would be firmly united and make a strong and substantial article, and which, when thus made, would become an article much better and

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cheaper than the knobs made of metal or other materials, the patent was valid, and the plaintiffs would be entitled to recover.

The court refused to give the instruction, and charged the jury, that if knobs of the same form and for the same purposes as that claimed by the patentees, made of metal or other material, had been before known and used ; and if the spindle and shank, in the form used by them, had been before known and used, and had been attached to the metallic knob by means of a cavity in the form of dovetail and infusion of melted metal, the same as the mode claimed by the patentees, in the attachment of the shank and spindle to their knob ; and the knob of clay was simply the substitution of one material for another, the spindle and shank being the same as before in common use, and also the mode of connecting them by dovetail to the knob the same as before in common use, and no more ingenuity or skill required to construct the knob in this way than that possessed by an ordinary mechanic acquainted with the business, the patent was invalid, and the plaintiffs were not entitled to a verdict.

This instruction, it is claimed, is erroneous, and one for which a new trial should be granted.

The instruction assumes, and, as was admitted on the argument, properly assumes, that knobs of metal, wood, &c., connected with a shank and spindle, in the mode and by the means used by the patentees in their manufacture, had been before known, and were in public use at the date of the patent ; and hence the only novelty which could be claimed on their part was the adaptation of this old contrivance to knobs of potter's clay or porcelain ; in other words, the novelty consisted in the substitution of the clay knob in the place of one made of metal or wood, as the case might be. And in order to appreciate still more clearly the extent of the novelty claimed, it is proper to add, that this knob of potter's clay is not new, and therefore constitutes no part of the discovery. If it was, a very different question might arise ; as it might very well be urged, and

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successfully urged, that a knob of a new composition of matter, to which this old contrivance had been applied, and which resulted in a new and useful article, was the proper subject of a patent.

The novelty would consist in the new composition, made practically useful, for the purposes of life, by the means and contrivances mentioned. It would be a new manufacture, and none the less so, within the meaning of the Patent Law, because the means employed to adapt the new composition to a useful purpose were old or well known.

But in the case before us, the knob is not new, nor the metallic shank and spindle, nor the dovetail form of the cavity in the knob, nor the means by which the metallic shank is securely fastened therein. All these were well known, and in common use; and the only thing new is the substitution of a knob of a different material from that heretofore used in connection with this arrangement.

Now, it may very well be, that, by connecting the clay or porcelain knob with the metallic shank in this well-known mode, an article is produced better and cheaper than in the case of the metallic or wood knob; but this does not result from any new mechanical device or contrivance, but from the fact, that the material of which the knob is composed happens to be better adapted to the purpose for which it is made. The improvement consists in the superiority of the material, and which is not new, over that previously employed in making the knob.

But this, of itself, can never be the subject of a patent. No one will pretend that a machine, made, in whole or in part, of materials better adapted to the purpose for which it is used than the materials of which the old one is constructed, and for that reason better and cheaper, can be distinguished from the old one; or, in the sense of the Patent Law, can entitle the manufacturer to a patent.

The difference is formal, and destitute of ingenuity or invention. It may afford evidence of judgment and skill in the selection and adaptation of the materials in the manu-

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facture of the instrument for the purpose intended ; but nothing more.

I remember having tried an action in the circuit in the District of Connecticut, some years since, brought upon a patent for an improvement in manufacturing buttons. The foundation of the button was wood, and the improvement consisted in covering the face with tin, and which was bent over the rim so as to be firmly secured to the wood. Holes were perforated in the centre, by which the button could be fastened to the garment. It was a cheap and useful article for common wear, and in a good deal of demand.

On the trial, the defendant produced a button, which had been taken off a coat on which it had been worn before the Revolution, made precisely in the same way, except the foundation was bone. The case was given up on the part of the plaintiff. Now, the new article was better and cheaper than the old one ; but I did not then suppose, nor do I now, that this could make any difference, unless it was the result of some new contrivance or arrangement in the manufacture. Certainly it could not, for the reason that the materials with which it was made were of a superior quality, or better adapted to the uses to which the article is applied.

It seemed to be supposed, on the argument, that this mode of fastening the shank to the clay knob produced a new and peculiar effect upon the article, beyond that produced when applied to the metallic knob, inasmuch as the fused metal by which the shank was fastened to the knob prevented the shank from acting immediately upon the knob, it being enclosed and firmly held by the metal ; that for this reason the clay or porcelain knob was not so liable to crack or be broken, but was made firm and strong, and more durable.

This is doubtless true. But the peculiar effect thus referred to is not distinguishable from that which would exist in the case of the wood knob, or one of bone or ivory, or of other materials that might be mentioned.

Now, if the foregoing view of the improvement claimed

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in this patent be correct, it is quite apparent that there was no error in the submission of the questions presented at the trial to the jury ; for unless more ingenuity and skill in applying the old method of fastening the shank and the knob were required in the application of it to the clay or porcelain knob than were possessed by an ordinary mechanic acquainted with the business, there was an absence of that degree of skill and ingenuity which constitute essential elements of every invention. In other words, the improvement is the work of the skilful mechanic,—not that of the inventor.

We think, therefore, that the judgment is, and must be, affirmed.

Mr. Justice WOODBURY dissented.

I feel obliged to dissent from my brethren in this case. It is chiefly, however, in regard to the manner in which some of the facts were submitted to the jury ; but, involving as it does an important principle in the practice under our patent system, it may be useful to explain the grounds of my dissent.

It is agreed, that in July, 1841, John G. Hotchkiss and two others obtained a patent for what they described as “a new and useful improvement in making door and other knobs of all kinds of clay used in pottery, and of porcelain.”

The first question of law which arises on the record, is whether the patent covered merely the knob, the bulbous handle, or included also the shank or spindle, and the mode of fastening it to the handle.

The charge of the judge at the trial, as drawn up in the exceptions, seems to have proceeded on the ground that the patent and invention covered both the knob and mode of fastening. Whether this was a correct construction does not, however, seem to be very material, when we consider the instructions given to the jury in other respects ; and that they were equally applicable to the bulbous handle alone, or the handle with its dovetail hollow, or the handle and the shank combined.

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If both parties acquiesced below in the idea that the patent was not only for such a knob, but the combination of such a knob with the shank in the mode described, and the charge was predicated on that view, it is, perhaps, not allowable here to take a different position.

In order to understand clearly what is deemed objectionable in the course pursued below, it may be noticed that the chief grounds of objection to the patent thus construed below seem to have been, that the invention was not original, nor of a character to be patentable.

The statement in the bill of exceptions is in some respects obscure. But the substance of the instruction on this, as set out there, is, that if the invention had been made before or was now confined, "so that the knob of clay or porcelain is the mere substitution of one material for another" — "the material being in common use, and no other ingenuity or skill being necessary to construct the knob than that of an ordinary mechanic acquainted with the business — the patent is void," &c.

The counsel for the plaintiffs next requested the court to proceed further, and charge the jury, that "if the said knob of clay or porcelain so attached were an article better and cheaper than the knob theretofore manufactured of metal or other materials, the patent was valid." But the court did not give any such instruction. In this, I think, was the chief error. From the record, I feel bound to believe that evidence was offered on both sides as to the originality and utility of the knob, and its mode of combination with the shank. It would seem, then, to have been the duty of the court below to instruct the jury, that it was their province to decide not only on which side the evidence preponderated, but if the invention was cheaper and better than what preceded it, that protection should be given to it as patentable.

In either view, considered as an invention of the knob alone, or the knob and handle combined, the chief question is still the same, whether proper instructions as to its being

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patentable, and all the proper instructions which the circumstances required, were given.

Now, on the point as to the invention being patentable, the direction virtually was to consider it not so, if an ordinary mechanic could have made or devised it; whereas, in my view, the true test of its being patentable was if the invention was new, and better and cheaper than what preceded it. This test, adopted by the Circuit Court, is one sometimes used to decide whether the invention for which a patent has been obtained is new enough or distinguished enough from a former invention to prevent it from being an infringement, and to justify a new patent for it,—and not, as here, whether it is valuable or material enough *per se* to be protected by any patent.

Whenever the kind of test adopted below is used otherwise than to see if there has been an infringement or not, it is to ascertain whether the invention is original or not, that is, whether it is a trifling change, and merely colorable, or not. Webster on Sub. Mat. 25; Curtis on Patents, secs. 6, 7; [Odiorne v. Winkley] 2 Gallis. C. C. 51; [Lowell v. Lewis] 1 Mason C. C. 182. But it is impossible for an invention to be merely colorable, if, as claimed here, it was better and cheaper; and hence this last criterion should, as requested by the plaintiffs, have been suggested as a guide to the jury.

Then, if they became convinced that the knob in this case, by its material, or form inside, or combination with the shank, was in truth better and cheaper than what had preceded it for this purpose, it would surely be an improvement. It would be neither frivolous nor useless, and, under all the circumstances, it is manifest that the skill necessary to construct it, on which both the court below and the court here rely, is an immaterial inquiry, or it is entirely subordinate to the question whether the invention was not cheaper and better. Thus, some valuable discoveries are accidental rather than the result of much ingenuity, and some happy ones are made without the exercise of great skill, which are still in themselves both novel and useful.

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Such are entitled to protection by a patent, because they improve or increase the power, convenience, and wealth of the community.

Chancellor Kent has truly said, (2 Kent's Com. 371,) "The law has no regard to the process of mind by which the invention was accomplished, whether the discovery be by accident, or by sudden or by long and laborious thought." See, also, *Earl v. Sawyer*, 4 Mason C. C. 1, 6; *Crane v. Price*, Webster's Pat. Cases, 411 [3 Am. & Eng. 437].

In this last case, Chief Justice Tindall goes quite as far as Chancellor Kent, and says: "In point of law, the labor of thought or experiment and the expenditure of money are not the essential grounds of consideration on which the question whether the invention is or is not the subject-matter of a patent ought to depend. For if the invention be new and useful to the public, it is not material whether it be the result of long experiments and profound research, or whether by some sudden and lucky thought, or mere accidental discovery."

So in *Earle v. Sawyer*, 4 Mason, 1, the doctrine settled is, that "a combination, if simple and obvious, yet if entirely new, is patentable. And it is no objection to it, that up to a certain point it makes use of old machinery." And Justice STORY says, in so many words: "It is of no consequence whether the thing be simple or complicated, whether it be by accident, or by long, laborious thought, or by an instantaneous flash of the mind, that it was first done." "The law looks to the fact, and not the process by which it is accomplished." Page 6.

It is thus apparent, to my mind, that the test adopted below for the purpose to which it was applied, and which has just been sanctioned here, has not the countenance of precedent, either English or American; and, at the same time, it seems open to great looseness or uncertainty in practice.

But it has been urged here, that this invention was merely applying clay and porcelain to a new purpose, and that merely a new purpose, in our patent system, is not entitled

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to protection. [Howe v. Abbott] 2 Story, 190; [Winans v. R. R., *ibid.*] 412; Losh v. Hague, Webster Pat. Cases, 207 [2 Am. & Eng. 477, 501, 510]; Curtis on Patents, 87. The meaning of this rule, however, as eviscerated from all the cases, is that the application of an old machine or old composition of matter, before patented, to a new object, or what is termed a double use, does not entitle one to a patent connected with this new object; because then there is no new machinery or new combination of old parts, as in merely applying a patent grist-mill to a new purpose of grinding plaster.

But it is entirely different if you apply an old earth, or old mechanical power, or old principle in physics, to a new object. There is then a new form adopted, or a new combination for the purpose. And though the elementary material be old, or the elementary principle operating be old, it being difficult to discover a new substance or new elementary principle, yet there is a new shape and consistency and use given, or a new *modus operandi*, which, if cheaper and better, benefits the world, and deserves protection and encouragement.

If these are the effects, however small the skill or ingenuity required to imitate them, they are not excluded from the aid of the laws by either principles or precedents. They are not mere double uses of a previous machine or composition; but a double or additional form or composition of an article for a new purpose.

There is a new manufacture, as here of clay into knobs, or knobs with a dovetail hollow combined with a shank. The books are full of such slight changes in structure, composition, or mode of application, which were novel, and better in their results, and therefore upheld, and were not and could not be regarded merely as the application of an old machine to new purposes. Beside the new material and the new mode of fastening, when the results, as here, are considerably improved, they suffice to make the invention patentable. Webster on the Sub. Matter, 29, 30. These are, then, all required by the strictest law, viz., "di-

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versity of method " and " diversity of effect." Phillips on Patents, 122.

Here, the new material for a knob, instead of former materials, was more durable than wood, was cheaper than iron, and very beautiful to the eye, instead of looking coarser. Its structure to receive a dovetailed shank and secure it by fused metal, rather than by a hole through and a screw at the end, appears to have been highly important; and if embraced in the patent, as was probably considered in the court below, furnished an additional reason for instructing the jury to consider whether the knob in controversy was not cheaper and better than what preceded it.

The precedents are quite full on this, and some of them, in all respects, nearly in point. Similar to this was the hot blast, substituted for the cold in making iron, and a patent for it upheld. *Nelson's Case*, Webster P. C. 14. The blast was still air, but in a different condition, leading to new and useful results. So the use of the flame of gas to finish cloth rather than the flame of oil. [Hall's Patent] Webster P. C. 99. So steel plates used instead of copper in engraving. *Kneass v. Schuylkill Bank*, 4 Wash. C. C. 9, 11. That very closely resembles the present case.

So pit-coal, substituted for charcoal in making iron, has been deemed patentable (Webster P. C. 14); and anthracite for bituminous coal (273). There are also some strong opinions, besides these decisions, in favor of a change in metal for an instrument being alone sufficient for a patent, if more useful or cheaper. See Webster on Sub. Matter, 25, note, and Curtis on Patents, sec. 8. Phillips on Patents, 134,—if there be any contrivance connected with it. Indeed, why should it not be sufficient? A new mode of operating, or a new composition to produce better results, is the daily ground for a patent. All which the act of Congress itself requires, is that the invention be for "any new and useful improvement on any art, machine, manufacture, or composition of matter," &c. 5 Stat. at Large, p. 119, sec. 6. Must it not, then, be considered such an improve-

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ment, if operating with new materials both cheaper and more durable?

Who cannot realize, that since the improved mode of cutting, boring, and shaping, the substitution of iron for wood in many manufactures might not often be a gain in strength and durability, quite beyond any difference in expense, and be justly patentable? Who, too, would not deem it material to gain by the use of wood or leather, or a cheap metal, instead of gold and silver, for some manufacture or mechanical purpose, when it can be done with increased benefit as well as cheapness? And why is he not a benefactor to the community, and to be encouraged by protection, who invents a use of so cheap an earth as clay for knobs, or in a new form or combination, by which the community are largely gainers?

On the whole case, then, it seems to me that justice between these parties, as well as sound legal principle, requires another trial on instructions upon some points omitted, and instructions in some other respects different in law, from what were given in this instance at the first trial.

ORDER. This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the District of Ohio, and was argued by counsel; on consideration whereof, it is now here ordered and adjudged by this court, that the judgment of the said Circuit Court in this cause be, and the same is hereby,

AFFIRMED WITH COSTS.

Notes :

1. Article of manufacture.

Le Roy v. Tatham, 14 How. 156 [p. *post*].

Collar Co. v. Van Dusen, 23 Wall. 530.

Glue Co. v. Upton, 97 U. S. 3 1877

Notes and Citations.

2. Substitution of material not involving invention.

Hicks *v.* Kelsey, 18 Wall. 670.

Reckendorfer *v.* Faber, 92 U. S. 347.

Smith *v.* Goodyear D. V. Co., 93 U. S. 486.

Terhune *v.* Phillips, 99 U. S. 592.

Double use :

Phillips *v.* Page, 24 How. 164.

Tucker *v.* Spalding, 13 Wall. 453.

Brown *v.* Piper, 91 U. S. 37.

Roberts *v.* Ryer, 91 U. S. 150.

Vinton *v.* Hamilton, 104 U. S. 485.

Slawson *v.* Railroad Co., 107 U. S. 649.

Stephenson *v.* Brooklyn Ry. Co., 114 U. S. 149.

Analogous use :

Penna. R. R. Co. *v.* Locomotive Truck Co., 110 U. S. 490.

Morris *v.* McMillin, 112 U. S. 244.

Stephenson *v.* Brooklyn R. R. Co., 114 U. S. 149.

Blake *v.* San Francisco, 113 U. S. 679.

Western Electric M't'g Co. *v.* Ansonia Brass Company,
114 U. S. 447.

Eachus *v.* Broomall, 115 U. S. 429.

Miller *v.* Foree, 116 U. S. 22.

Patent in suit :

No. 2197. Hotchkiss, J. G. July 29, 1841. Knobs for
Doors.

OTHER SUITS ON SAME PATENT :

Hotchkiss *v.* Greenwood, 1848. 4 McL. 456 ; 2 Robb, 730.

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- Hicks v. Kelsey, 1873. 18 Wall. 670 ; Bk. 21, L. ed. 852.
- Collar Co. v. Van Dusen, 1874. 23 Wall. 530 ; Bk. 23, L. ed. 128.
- Brown v. Piper, 1875. 91 U. S. 37 ; Bk. 23, L. ed. 200.
- Reckendorfer v. Faber, 1876. 92 U. S. 347 ; Bk. 23, L. ed. 719.
- Dunbar v. Myers, 1876. 94 U. S. 187 ; Bk. 24, L. ed. 34.
- Smith v. Goodyear D. V. Co., 1877. 93 U. S. 486 ; Bk. 23, L. ed. 952.
- Heald v. Rice, 1882. 104 U. S. 737 ; Bk. 26, L. ed. 910.
- Packing Co. Cases, 1882. 105 U. S. 566 ; Bk. 26, L. ed. 1172.
- Slawson v. Railroad Co., 1883. 107 U. S. 649 ; Bk. 27, L. ed. 576.
- King v. Gallun, 1883. 109 U. S. 99 ; Bk. 27, L. ed. 870.
- Penna. R. R. Co. v. Locomotive Co., 1884. 110 U. S. 490 ; Bk. 28, L. ed. 222.
- Phillips v. Detroit, 1884. 111 U. S. 604 ; Bk. 28, L. ed. 532.
- Morris v. McMillin, 1884. 112 U. S. 244 ; Bk. 28, L. ed. 702.
- Stephenson v. Brooklyn R. R. Co., 1885. 114 U. S. 149 ; Bk. 29, L. ed. 58.

IN CIRCUIT COURTS :

- Teese v. Phelps, July, 1855. 1 McAl. 48.
- In re* Maynard, October, 1857. 1 MacA.'s Pat. Cases, 536.
- In re* Berry, April, 1860. Ms. D. C.
- Sarven v. Hall, April, 1872. 9 Blatch. 524 ; 1 O. G. 437 ; 5 Fish. 415.
- Carter v. Messinger, March, 1873. 11 Blatch. 34.
- Goodyear Dental Vulcanite Co. v. Smith, May, 1874. 1 Holmes, 354 ; 5 O. G. 585 ; 1 Ban. & Ard. 201.
- Union Paper Collar Co. v. Leland, October, 1874. 1 Holmes, 427 ; 1 Ban. & Ard. 491 ; 7 O. G. 221.

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- Milligan & Higgins Glue Co. *v.* Upton, May, 1874. 4 Cliff. 237 ;
1 Ban. & Ard. 497 ; 6 O. G. 837.
- Goodyear Dental Vulcanite Co. *v.* Willis, November, 1874. 1 Flip.
388 ; 1 Ban. & Ard. 568 ; 7 O. G. 41.
- Putnam *v.* Weatherbee, May, 1875. 1 Holmes, 497 ; 2 Ban. &
Ard. 78.
- Comstock *v.* Sandusky Seat Co., January, 1878. 3 Ban. & Ard.
188 ; 13 O. G. 230.
- Simmons *v.* Blackinton, October, 1878. 3 Ban. & Ard. 481.
- Alcott *v.* Young, March, 1879. 16 Blatch. 134 ; 4 Ban. & Ard.
197 ; 16 O. G. 403. 7 Reporter, 552.
- Phillips *v.* City of Detroit, June, 1879. 4 Ban. & Ard. 347 ; 17
O. G. 191.
- Scott *v.* Evans, April, 1882. 11 Fed. Rep. 726. 14 Reporter, 42.
- Welling *v.* Crane, September, 1884. 21 Fed. Rep. 707 ; 29 O. G.
451.
- N. Y. Bung & Bushing Co. *v.* Doelger, March, 1885. 23 Fed.
Rep. 191 ; 32 O. G. 651.
- Florsheim *v.* Schilling, January, 1886. 26 Fed. Rep. 256.
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- Leonard *v.* Lovell, December, 1886. 29 Fed. Rep. 310.
- Mott Iron Works *v.* Cassidy, March, 1887. 31 Fed. Rep. 47.
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- Ex parte* P. Y. Brown, May, 1869. C. D. 1869, p. 18.
- Ex parte* Daniel Mills, May, 1869. C. D. 1869, p. 25.
- Ex parte* A. C. Platt, July, 1869. C. D. 1869, p. 42.
- Ex parte* Dimond & Doolittle, September, 1869. C. D. 1869, p. 64.
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- George R. Osborne & Benjamin A. Dayton, November, 1870.
C. D. 1870, p. 149.
- J. C. McLaren & C. B. Coventry, August, 1876. 10 O. G. 335.
- J. Blackman *v.* J. B. & R. J. Morray, October, 1877. 13 O. G. 175.

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IN CANADIAN COURTS :

Ball v. Crompton Corset Co., February, 1886. 12 Ont. App. R.
738.

IN TEXT-BOOKS :

2 Abb. Pat. Law, 1886, pp. 26, 37, 49, 300.

Curt. on Pats., 4th ed., §§ 51, 70, 71, 72, 73.

Merwin on Pat. Invt., 1883, pp. 20, 60, 63, 187, 338, 350, 494, 496,
504, 509, 511, 588.

Walker on Pats., 1883, p. 21.

Syllabus.

PETER HOGG AND CORNELIUS H. DELAMATER,
PLAINTIFFS IN ERROR, v. JOHN B. EMERSON.

11 How. 587-609. Dec., 1850.

[Bk. 18, L. ed. 824 ; 1 Whit. 634.]

Same case, 6 How. 437 ; 5 Am. & Eng. 1.

Particular patent sustained. Joinder of inventions. Error in drawings. Damages. Innocent infringer — mitigation of damages

1. The decision in *Hogg v. Emerson*, 6 How. 437, reviewed and affirmed (p. 302).
2. The specifications of patent granted J. B. Emerson, March 8, 1834, for Steam Engine, constitute a part of the letters patent, and the improvement is sufficiently described therein (p. 302).
3. The inventions in Emerson's patent held connected in their design and operation and properly joined in one patent (p. 304).
4. A joinder in one patent of a combination and two or three portions of that combination is proper (p. 304).
5. Correction of errors in drawings considered (p. 305).
6. It is the specification which governs, and the drawings merely illustrate (p. 305).
7. It is the making and selling to be used, and not the selling, or buying, or making alone, for which full damages are usually given, and the license fee may be a proper guide to determine the same (p. 306).
8. A fair ground exists for the mitigation of damages, if the maker of the infringing machine appeared in truth to be ignorant of the patent right, and did not intend any infringement (p. 306).

[Citations in the opinion of the Court:]

- (1) *Hogg v. Emerson*, 6 How. 437 ; p. 1, *ante*, p. 301.
- (2) *Wyeth v. Stone*, 1 Story, 288, p. 304.
- (3) *Chitty on Bills*, 336, 379, p. 305.
- (4) *Scott v. Lifford*, 9 East, 347, p. 305.

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- (5) *Scott v. Lifford*, 1 Camp. 246, p. 305.
- (6) *Johnson v. Sutton*, 1 D. & E. 514, p. 305.
- (7) *Taylor v. Williams*, 2 Barn & Adol. 857, p. 305.
- (8) *U. S. v. Bank of Georgia*, 10 Wheat. 350, p. 306.
- (9) *Curt. on Pats.* 256 ; 3 note, p. 306.
- (10) *Boyd v. M'Alpen*, 3 McLean, 427, p. 306.
- (11) *Whittemore v. Cutter*, 1 Gallis. 429, p. 306.
- (12) *Jones v. Pearce*, Webs. P. C. 125 ; 1 Am. & Eng. 472, p. 306.
- (13) *Bryce v. Dorr*, 3 McLean, 563, p. 306.
- (14) *Lowell v. Lewis*, 1 Mason, 182, p. 306.
- (15) *Meeker v. Wilson*, 1 Gall. 420, p. 306.

THIS case was brought up from the Circuit Court of the United States for the Southern District of New York.

It was reported in 6 Howard, 437 [p. 1, *ante*], and at the conclusion of the report of that case is the following note :

“NOTE.—After the delivery of this opinion, the counsel for the plaintiffs in error suggested that other questions were made below, which they desired to be considered, and therefore moved for another *certiorari* to bring them up. This was allowed, and judgment suspended till the next term.”

Another *certiorari* was issued, which brought up the entire record. The case, as now to be reported, consists of three records, in parts. Instead of republishing those parts already reported, they will only be referred to ; and if the reader is desirous to investigate the case thoroughly, he must read this report in conjunction with that in 6 Howard.

On the 8th of March, 1834, John B. Emerson obtained a patent for a new and useful improvement in the steam-engine, which is set forth, together with the schedule, in 6 Howard, 437 [p. 1, *ante*], *et seq.*

At April Term, 1844, he brought an action of trespass on the case against Hogg and Delamater for an infringement of his patent-right. The declaration is inserted *in extenso* in 6 Howard. The defendants filed the general-issue plea, and gave the following notices :

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“ Circuit Court of the United States of America for the Southern District of New York, in the Second Circuit.

“ PETER HOGG AND CORNELIUS DELAMATER

v.

JOHN B. EMERSON.

“ SIR : You will please to take notice, that, on the trial of the above-entitled cause, without waiving the right to require the plaintiff to make out all facts essential to support and prove his declaration and cause, and without admitting any part thereof, the defendants will, under the plea of the general issue aforesaid, give in evidence, prove, and insist upon the following special matter, of which notice is hereby given, pursuant to the statute, in addition to such other defence as they are by law entitled to make.

“ I. That the patent granted to John B. Emerson, bearing date the 8th day of March, 1834, under which the said plaintiff claims, is void, for the following among other reasons :

“ 1. Because, although it is, in and by the schedule annexed to the said patent, recited that the said John B. Emerson had alleged that he had invented a new and useful improvement in the steam-engine, and in the mode of propelling therewith either vessels on the water or carriages on the land ; and it is claimed that, in and by the said patent, the exclusive right and liberty of making, using, and vending to others to be used the said improvement was granted to the said John B. Emerson, his heirs, executors, administrators, or assigns, for the term of fourteen years from and after the date of the said patent ; yet the said patentee did not, according to law, deliver with his application for the said patent, or at any other time, to any of the officers who were to consider his application, a written description of his said improvement or invention, and of the manner of using the same, in such full, clear, and exact terms as to distinguish the same from all other things before known, and to enable any person skilled in mechanics to make and use the said invention ; and that the improvements claimed by the said John B. Emerson are not, in the

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said patent, or in the schedule thereto annexed, described in such full, clear, and exact terms as to distinguish the same from all other things before known, or to enable any person skilled in mechanics to make or use the said improvements; and that the said John B. Emerson did not deliver, with his said application for the said patent, or at any other time, to any of the officers who were to consider his application, a full explanation of his said improvements, and the several modes in which he had contemplated the application of the principle, by which they could be distinguished from other inventions, and he did not accompany his application with drawings and written reference, as required by law.

“2. Because the said patent is granted for an improvement in the steam-engine; and, in the schedule annexed to the said patent, the said John B. Emerson has claimed as his invention different and distinct improvements, to wit, in the steam-engine and in the paddle-wheel, either of which may be used singly and separately for the purpose indicated in said schedule. And although the said John B. Emerson, in the schedule annexed to the said patent, does not claim the invention of spiral paddle-wheels, but claims merely the invention of an improvement in spiral paddle-wheels already essayed, yet he has not, in the said schedule annexed to the said patent, described in what his said improvement in the said spiral paddle-wheels consists, so that any person skilled in mechanics can know wherein the paddle-wheels mentioned in the said schedule differ from spiral paddle-wheels before known and used; and because no distinction or discrimination is made between the parts and portions of the said propelling-wheel of which the said John B. Emerson may be the inventor or discoverer; the said defendants protesting, at the same time, that the said John B. Emerson has not been the inventor or discoverer of any part or portion of the alleged improvements.

“3. Because the thing patented, as set forth in the said patent, is different from the things claimed as the invention

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of the patentee in the schedule annexed to the patent. The thing patented is a new and useful improvement in the steam-engine ; but, in the schedules annexed to the said patent, the thing claimed by the said patentee as his invention is not only the alleged improvement in the steam-engine, but also the spiral propelling-wheel, and the application of the revolving vertical shaft to the turning of a capstan on the deck of a vessel ; while the specification indicates only an improvement in the spiral paddle-wheel, without describing the same in such full, clear, and exact terms as to distinguish the same from all other things before known, or to enable any person skilled in mechanics to make or use the said improvement.

“ 4. Because the drawings of his alleged invention, as deposited in the Patent Office, do not agree with each other, nor with the specification to his letters patent annexed, and render it altogether doubtful and uncertain what his alleged invention truly and really was.

“ II. And the said defendants will further give in evidence, and prove on the trial of the issue aforesaid, that the machine for propelling boats, alleged to have been made by them in violation of the right of the plaintiff in this case, was made, if made at all, under certain letters patent heretofore granted by the United States to one John Ericsson, to wit, on the 1st day of February, in the year 1838.

“ III. And the said defendants will further give in evidence, and prove on the trial of the issue aforesaid, that there was at no time on file, or deposited in the Patent Office, whilst they were engaged in making machines under the said John Ericsson's patent, any specifications or drawings deposited by the said John B. Emerson, from which any person skilled in mechanics could construct a machine similar to the machines they have constructed under the patent of the said John Ericsson.

“ IV. And the said defendants will further give in evidence, and prove on the trial of the issue aforesaid, that the specification to the letters patent of the said John B. Emer-

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son annexed contained no description of the inventions and improvements now alleged and pretended to be covered by his said letters patent, and claimed to be included therein.

“V. And the said defendants will further give in evidence, and prove on the trial of the issue aforesaid, that the said John B. Emerson was not the original inventor or discoverer of any part or parts of the propelling-wheel described in his said letters patent, or of any improvement in any part or parts of the said machine.

“VI. And the said defendants will further give in evidence, on the trial of the issue aforesaid, a printed description of a certain propelling-wheel, invented by Archibald Robinson, of London, which said description was published in one or more public works, and particularly in the seventh volume of the London Journal of Arts and Sciences, edited by W. Newton, and published in London in the year 1831, and extensively known to mechanics and engineers in the United States, tending to prove that the plaintiff was not the original and first inventor or discoverer of the thing patented, or of a substantial and material part thereof claimed as new, but that it had been described as aforesaid, in public works, before the supposed discovery thereof by the plaintiff.

“VII. And the said defendants will further give in evidence, on the trial of the issue aforesaid, the printed description of certain improvements in machinery for propelling steam-vessels, invented by Jacob Perkins, of London, as early as the year 1829, which said description was published in a public work, printed in London, in the year 1831, to wit, in the seventh volume of the London Journal of Arts and Sciences, edited by W. Newton, a well-known scientific journal, published in London in the year aforesaid. And the said defendants will further give in evidence, a plate, number nine in the said volume, containing an engraved delineation of the said invention,—all tending to prove that the plaintiff was not the original and true inventor or discoverer of the thing patented, or of a substan-

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tial and material part thereof claimed as new, but that it had been described as aforesaid, in a public work, before the supposed discovery thereof by the plaintiff.

“VIII. And the said defendants will further give in evidence, on the trial of the issue aforesaid, a printed description of a certain mode of propelling boats in the water by the application of sculling-wheels, or screw propelling-wheels, invented by Benjamin M. Smith, which said description was published, in the year 1830, in the sixth volume of the new series of the Franklin Institute, a scientific journal published in the city of Philadelphia, in the State of Pennsylvania, tending to prove that the plaintiff was not the original and true inventor or discoverer of the thing patented, or of a substantial and material part thereof claimed as new, but that it had been described as aforesaid, in a public work, before the supposed discovery thereof by the plaintiff.

“IX. And the said defendants will further give in evidence, and prove on the trial of the issue aforesaid, that the said machine, alleged in the plaintiff's writ in this cause to have been made by the said defendants, does not in any of its parts resemble the machine described in the schedule annexed to the letters patent granted to the said plaintiff.

“X. And the said defendants will further give in evidence, and prove on the trial of the issue aforesaid, that the said John B. Emerson, if he was really the inventor of the improvements now alleged, pretended, and claimed by him, voluntarily abandoned the same to the public.

“XI. And the said defendants will further give in evidence, and prove on the trial of the issue aforesaid, that they have never made, used, or sold the machine patented by the said John B. Emerson, or any part thereof, nor any imitation of the said machine, nor of any part thereof.

“XII. And the said defendants will further give in evidence, and prove on the trial of the issue aforesaid, that the description and specification filed by the said plaintiff

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do not contain the whole truth relative to this invention or discovery.

"Dated New York, October 26, 1844.

"Yours, &c.,

P. A. HANFORD,

"Attorney for Defendants."

"To PETER CLARK, Esq., *Attorney for Plaintiff.*"

"Circuit Court of the United States of America for the Southern District of New York, in the Second Circuit.

"PETER HOGG AND CORNELIUS DELAMATER }

v.

JOHN B. EMERSON.

"SIR: You will please to take notice, that, on the trial of the above-entitled cause, the defendants, in addition to the various matters set forth in the notice heretofore given in this cause, under date of the 26th of October, 1844, will, under the plea of the general issue, prove and insist upon the following special matter, of which notice is hereby given pursuant to statute.

"The said defendants will give in evidence, on the trial of the issue aforesaid, the letters patent granted to John Ericsson, by the English government, in 1836, and the letters patent granted him, by the government of the United States, in the years 1838 and 1840.

"The said defendants will also give in evidence copies of letters patent, granted by the United States government, to Josiah Copley, for a spiral propeller, under date of May 22, 1830; and to John L. Sullivan, under date of March 24, 1817, for a submarine propeller; and to Edward P. Fitzpatrick, under date of November 23, 1835, for a screw for propelling boats; and to James Widdifield, under date of October 11, 1815, for propelling boats by screw-wheel; and to John L. Smith, under date of September 18, 1835, for propelling boats by screw-wheel; and to Henry W. Wheatley, under date of December 30, 1818, for propelling boats by screw-power; and to Jesse Ong, on the 22d of May, 1837, for propelling paddle-wheels.

"The said defendants will also give in evidence the

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Digest of Patents issued by the United States, published under the superintendence of the Commissioner of Patents, in 1840, and more particularly pages 219-225 of the same.

“The said defendants will also give in evidence a description of certain improvements in propelling vessels, communicated by Charles Cummerow, of London, and published in Newton’s London Journal, second series, eighth volume, page 144 ; which volume the said defendants will give in evidence.

“The said defendants will also give in evidence a description of certain improvements in the construction and adaptation of a revolving spiral paddle, for propelling boats and other vessels, patented by the British government to Bennet Woodcroft, of Manchester, in the county palatine of Lancaster, printed and published in Newton’s Journal, third series, first volume, page 349 ; which volume the said defendants will give in evidence.

“The said defendants will also give in evidence the seventh volume of the Repertory of Patent Inventions, for 1837, published in London, and the copy, printed at page 172 of the same, of certain letters patent granted to F. P. Smith for an improved propeller.

“The said defendants will also give in evidence certain letters patent, issued by the government of the United States, to Francis P. Smith, for an improved propeller, bearing date the 12th day of November, 1841.

“The said defendants will also give in evidence, that the alleged invention of the said plaintiff, or so much thereof as the said plaintiff may allege or claim that the said defendants have infringed, was invented, known, and used before the same was patented or invented by the said plaintiff. And the said defendants will prove the said prior use and knowledge of the said alleged improvement or invention, and where the same had been used, by Dr. Thomas P. Jones, who resides in the city of Washington, in the District of Columbia.

“The said defendants will also give in evidence the sixth volume of the Journal of the Franklin Institute, new series,

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page 149, where is contained an account of the spiral propeller above referred to, patented to Josiah Copley, and the fifth volume of the same, new series, page 136, where is contained a notice of the propeller patented to Benjamin P. Smith.

"The said defendants will also give in evidence certain letters patent granted to John S. Trott, of Boston, by the government of the United States, under date of June 2, 1818, for propelling wheels for boats by animal-power.

"Dated New York, October 27, 1845.

"Yours, &c.,

P. A. HANFORD,

"Attorney for Defendants."

"To PETER CLARK, Esq., *Attorney for Plaintiff.*"

In May, 1847, the cause came on for trial. Both plaintiff and defendant examined many witnesses. The substance of the testimony, on the part of the defendants, is stated in the argumentative opening of their counsel in this court, which is copied in order to show their view of the evidence. After it was closed, the counsel for the defendants made the following prayers to the court to instruct the jury :

"1. That the claim of the plaintiff, as set forth in his specification annexed to his letters patent, embraces the entire spiral paddle-wheel. The claim is, therefore, too broad upon the face of it, and the letters patent are void upon this ground, and the defendants are entitled to a verdict.

"2. That if the court should depart from the language of the patentee, in which he has made his claim, for the purpose of giving to that claim a limitation which may not be too broad, it could not clearly, or with any reasonable certainty, or without resorting to conjecture, be determined by the court what the claim was ; and the patent is, therefore, void for ambiguity, and the defendants are entitled to a verdict.

"3. That the patent is void upon its face, for this : that, purporting to be a patent for an improvement, and specifying that the invention is of an improved spiral paddle-

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wheel, differing essentially from any which have been heretofore essayed, without pointing out in what the difference consists, or in any manner whatever indicating the improvement by distinguishing it from the previously-essayed spiral wheels, it is wanting in an essential prerequisite to the validity of letters patent for an improvement.

"4. That the patent is void upon its face, for this : that it embraces several distinct and separate inventions, as improvements in several distinct and independent machines susceptible of independent operation, not necessarily connected with each other in producing the result aimed at in the invention, and the subject-matter of separate and independent patents.

"5. That inasmuch as it appears conclusively, by the deposition of Arthur L. McIntyre, the officer in the Patent Office of the United States who has the care and custody of the drawings therein filed, that on the 12th day of February, 1844, the plaintiff filed a drawing, sworn to by him as a correct delineation of his invention, which drawing had been on file since the 5th day of May, 1841, when it was there deposited by the plaintiff, unattested ; that said drawing became a part of the record of the plaintiff's patent, and that the said record was then complete ; and the rights and privileges of the plaintiff, under the act of Congress of March 3, 1837, were exhausted by the filing of said attested drawing, and therefore said drawing was the one which (if any) should have been introduced in evidence as the recorded delineation of the invention, and the second drawing subsequently filed and introduced in evidence should be disregarded by the jury.

"6. Though inasmuch as it appears conclusively, by the deposition of Arthur L. McIntyre, as before stated, that on the 12th day of February, 1844, the plaintiff filed a drawing, sworn to by himself as a correct delineation of his invention, which drawing had been on file since the 5th day of May, 1841, when it was there deposited by the plaintiff, unattested ; that said drawing became a part of the record of plaintiff's patent, and that as against these defendants,

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who, by legal presumption, were notified of the nature and character of the invention of said first drawing, he is now estopped from asserting that the same is not a true delineation of his invention, either by the testimony of witnesses, or by the introduction of a second and different drawing.

“7. That the rule of law which declares the drawings for patentee to be part of his patent, and that they may be referred to for the purpose of helping out the specification, should be limited to those cases in which the drawings are either annexed to or referred to in the specification ; and that even in such case the drawings cannot be resorted to for the purpose of adding to, or in any manner enlarging, the claim as set forth in the specification.

“8. That if the second drawing, which has been exhibited in evidence, is to be regarded as a part of the plaintiff's patent, and to be referred to to help out the specification, there must be a conformity between them. If they are substantially at variance, and incongruous, and inconsistent with each other, it is a fatal defect in the patent, which alone is sufficient to prevent the recovery of the plaintiff.

“9. That if, from the testimony, the jury believe that the placing of the paddles obliquely upon the rim of the wheel, sworn to by John S. Trott as having been done by him in 1818, was substantially the same in principle as placing them spirally upon said rim, the defendants are entitled to a verdict.

“10. That the plaintiff must satisfy the jury, to sustain the only judicial construction of which the patent admits, that he is the first and original inventor of the spiral form of the propelling float ; and if, from the evidence in relation to the patent and wheel of Benjamin M. Smith, in 1829,—of Ebenezer Beard, in and of the spiral float used by John Stevens, in 1805,—they believe that this spiral form was not new in the plaintiff, but was known and used before his patent, that upon this ground the defendants are entitled to a verdict.

“11. That if the jury believe, from the specification of

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the plaintiff, and the testimony, that he designed to express his improvement to consist in the trough form given to the propelling plates by bending them along the centre, so that the sides of the plates shall be at right angles, or nearly so, to each other, and that this trough form, thus produced previous to giving the plate the spiral curve longitudinally, is to be considered as of the essence of plaintiff's invention, then the defendants have not infringed upon his rights, and are entitled to a verdict.

" 12. That if the jury believe, from the specification and the testimony, that neither a cylindrical band nor the twisted spokes were described by the plaintiff as constituting a part of the paddle-wheel by him patented, the same cannot be added as a component part of his invention, by their insertion in a drawing filed ten years after the issuing of his letters patent.

" 13. That from the silence in the specification, both as to the hoop or cylindrical band and twisted spoke, notwithstanding their delineation in the drawing, the jury must infer one of two things: either that the plaintiff did not invent, and therefore did not describe them, or that they were (as his witness Allaire in substance testified) not the subject-matter of invention at the time at all, being old and well-known parts of the machine described.

" 14. That unless the jury believe, from the testimony, that the plaintiff, before the issuing of his letters patent, actually reduced his alleged invention to practice, the patent is void, and the defendants are entitled to a verdict.

" 15. That if, from the testimony, the jury believe that Captain Ericsson actually reduced the propelling-wheel to practice, such as were constructed by the defendants, before the same were reduced to practice by the plaintiff, the defendants are entitled to a verdict.

" 16. That the exclusive rights of a patentee are to make as well as to use, and vend to others to be used; and that the rule of damages, as against the manufacturer who has invaded the exclusive right to make, are the profits which he has derived, or which the plaintiff might have

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derived, from such making, because it is the sum which, by his invasion, he has prevented the patentee from obtaining.

"17. That if, from the evidence, the jury are satisfied that no propelling-wheels were made by the defendants between the 27th of March, 1844, (the date of the alleged completion of the record of the plaintiff's patent, under the act of March 3, 1837,) and the commencement of this suit, in April following, upon this ground the defendants are entitled to a verdict.

"18. That the invention of the plaintiff, as described in his specification, as illustrated by his drawing, cannot be regarded as a combination of the several parts of the wheel. As a combination, the invention is not brought out in the specification or drawings, and such a view of the case is entirely inadmissible."

But the court refused to instruct the jury according to the prayers of the defendants, and charged them as follows :

(That part of the charge which was brought up by the record in 6 Howard is there printed ; but the *certiorari* having brought up the residue, it is now printed entire.)

"The court, in charging the jury, submitted to them, as a question of fact, whether the drawings made by Dr. Jones, in 1844, of the paddle-wheel of the plaintiff, was substantially in conformity with the drawing filed and model deposited in the Patent Office in 1834 ; that if this fact was found in the affirmative, it was not seriously disputed but that the wheel of Ericsson was similar to one constructed from the specification and drawing of the plaintiff, when taken together.

"The court further charged, that if the jury found the above question in the negative, then it would become necessary for them to inquire whether the specification, without the aid of the drawing, was sufficient to enable a mechanic of ordinary skill to construct the plaintiff's wheel,—such a one as could be constructed with the aid of it.

"The court further charged, that the claim of the plain-

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tiff was for an improvement upon the spiral paddle-wheel or propeller ; that by a new arrangement of the parts of the wheel, he had been enabled to effect a new and improved application and use of the same in the propulsion of vessels ; that the ground upon which the claim is founded was this : it is the getting rid of nearly all the resisting surface of the wheels of Stevens, Smith, and others, by placing the spiral paddles or propelling surfaces on the ends of arms, instead of carrying the paddles themselves in a continued surface to the hub or shaft. It is claimed that a great portion of the old blade not only did not aid in the propulsion, but actually impaired its efficiency, and also that the improved wheel is made stronger.

“ It was made a question on the former trial whether the plaintiff did not claim, or intend to claim, the entire wheel ; but we understand it to be for an improvement upon the spiral paddle-wheel, claimed to be new and useful in the arrangement of its parts, and more effective by fixing the spiral paddles upon the extremity of the arms at a distance from the shaft.

“ The court further, in charging the jury, submitted to them the question, whether the plaintiff was the first and original inventor of the improvement, referring them to the evidence upon this branch of the case.

“ The court further instructed the jury, that the description of the invention was sufficient, and that the objection that the patent embraced several distinct discoveries was untenable.

“ That the filing of imperfect drawings of his wheel in 1841 did not preclude the plaintiff from filing a corrected one in 1844, and that the drawing could be referred to in aid of the specification, though not annexed to the patent, or referred to in the specification ; if it was filed with the application in the Patent Office at the time of the taking out of the patent, it is then a part of the record.

“ That if the drawing and specification were so contradictory that a mechanic of ordinary skill could not construct the wheel, the patent was void. But if the latter was

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ambiguous, obscure, or doubtful, the drawing might be referred to to remove the difficulty.

“That the omission or neglect of the patentee to bring his improvement into public use did not forfeit his right to the invention, and that the fact of Ericsson’s propeller having been brought into public use first did not give his patent priority, if the plaintiff was the first and original inventor.

“We do not understand that the original inventor and patentee, in order to enable him to maintain an action for an infringement, must prove that he put his patent in use by actually building a boat, and running her with a propeller; it is sufficient if he shows, by his experiments, model, and descriptions, that his improvement is useful.

“On the question of damages, the court instructed the jury, that the settled rule was to give the actual damages that the plaintiff had sustained. And it was apprehended, as applied to the case before them, that that would be the sum the patentee was entitled to for the right to make his propeller, to be used in the several vessels built by the defendants, and in which Ericsson’s propeller had been placed by them.

“That the damages were not necessarily confined to the making of the wheels between March, 1844, when the drawings were restored to the Patent Office, and the bringing of the suit. Such a limitation assumes that there can be no infringement of the patent after the destruction of the records, in 1836, until they are restored to the Patent Office, and that during the intermediate time the rights of the patentee might be violated with impunity. We do not assent to this view.

“In the first place, the act of Congress providing for the restoration was not passed until the 3d of March, 1837; and in the second place, in addition to this, a considerable period of time must necessarily elapse before the act would be generally known; and then a still further period before copies of the drawings and models could be procured.

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Patentees were not responsible for the fire, nor did it work a forfeiture of their rights.

“The ground for the restriction claimed is, that the community have no means of ascertaining, but by a resort to the records of the Patent Office, whether the construction of a particular machine or instrument would be a violation of the rights of others, and the infringement might be innocently committed.

“But if the embarrassment happened without the fault of the patentee, he is not responsible for it; nor is the reason applicable to the case of a patent that has been published, and the invention known to the public. The specification in this case had been published. It is true, if it did not sufficiently describe the improvement without the aid of the drawing, this fact would not help the plaintiff.

“If there were unreasonable delay and neglect in restoring the records, and in the meantime a defendant had innocently made the patented article, a fair ground would be laid for a mitigation of the rule of damages, if not for withholding them altogether; and the court left the question of fact, as to reasonable diligence of the patentee or not, in this respect, and also all questions of fact involved in the points of the case for the defendants, to the jury.”

The counsel for the defendants having taken an exception to all that part of the charge which was inconsistent with their prayers, brought the case up to this court.

It was argued by *Mr. John O. Sargent*, from a brief filed by himself and *Mr. Johnson*, for the plaintiffs in error, and by *Mr. Gillet*, for the defendant in error.

The counsel for the plaintiffs in error stated the case as follows:

On the 8th of March, 1834, John B. Emerson obtained letters patent of the United States for certain improvements in the steam-engine. In December, 1836, the copy of the letters in the Patent Office, with the drawing and the model, was destroyed by fire. In 1837, Congress passed an

Argument of counsel.

act calling upon inventors whose models and drawings and letters had been destroyed, to replace them. 5 Stat. at Large, 191. In 1841, Emerson recorded his letters anew, and filed an unattested drawing. In 1844, February 12, he completed his record by swearing to said drawing, and filing it in the Patent Office. In March, 1844, he visited Washington, and, on consultation with Dr. Jones, prepared a new drawing, and swore to it, and filed it. In the month of May, he commenced a suit against Hogg and Delamater for making the Ericsson propeller.

In the year 1835, the instrument known as the Ericsson propeller was in operation in London. In 1838, it was patented in the United States. From 1839 to 1844, it was made by manufacturers in New York and elsewhere, without hindrance or molestation, till the suit was commenced against Hogg and Delamater. This instrument is a cylindrical band, supporting a series of spiral planes, and sustained on the shaft by two or more twisted spokes. The spokes and the band constitute its peculiar and patentable features.

John B. Emerson's specification contains no allusion to a cylindrical band or a twisted spoke. His drawing filed in March, 1844, adopts and adds these features. The only evidence tending to show that they were contemplated by him at any time, is a model said to have been made in 1837, two years after Ericsson's propeller was in operation in London. This model contains three hoops, and nine or more spiral arms. From this model of 1837, and information of the patentee, Dr. Jones made the drawing of 1844.

Hogg and Delamater were iron-founders in the city of New York. They made no propellers to use, and used none; they merely manufactured them to order. They had no interest whatever in the patent-right of Captain Ericsson. No evidence appears in the case, tending to show any such interest.

It is not pretended that J. B. Emerson ever, at any time, reduced his wheel to practice, until the year 1843, when he made an experiment with it in the harbor of New Orleans.

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All that we know of it, therefore, prior to the year 1837, is derived from the drawing made from the model of 1837, or the statement of the patentee himself, and the formal oath that this drawing was a correct delineation of his invention.

The attempt, therefore, to incorporate the spiral spoke, and the cylindrical band or hoop, into Mr. J. B. Emerson's patent, rests exclusively upon his own allegation, which is unsupported entirely by the specification. Emerson's own witnesses admit that there is no mention of these features in the specification, and Dr. Jones, Keller, Birkbeck, Dunham, Belknap, Bartol, Cunningham, Mapes, Cox, and Kemp swear distinctly that the specification, in this respect, contradicts the drawing. It is not denied that the absence of these would destroy every point of resemblance between Emerson's wheel and Ericsson's propeller.

It was distinctly proved, by John S. Trott and Nathan Rice, that the entire wheel of Ericsson, except the spiral twist of the propelling blade and the spiral twist of the arm, was in use in 1818, and then patented by Trott. Evidence was also offered tending to show that Trott's wheel, with the oblique float, operated on the same principle with Ericsson's wheel, with the spiral float.

It was distinctly proved, that spiral wheels, with arms, employed at the stern, and submerged, were successfully in use long before J. B. Emerson obtained a patent.

The trough form, which is so distinctly dwelt upon in Emerson's specifications, and which, in fact, constitutes the only feature described and relied upon, does not exist in the Ericsson propeller. The latter instrument employs only spiral planes, which had been in use half a century.

In 1847, a verdict was rendered in the cause against the defendants below, and judgment taken thereon, on which a writ of error was allowed under the seventeenth section of the Patent Act, restricted to certain questions made at the trial, and upon certain conditions; among which were those of submitting the case on written arguments, within a limited time, and of paying the amount of the judgment into court. The cause was argued according to those con-

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ditions, and the court gave an opinion in the case, in which they decided, substantially, that the plaintiffs here were entitled to stand before this court like all other suitors, and that the writ, if granted, must be on the whole case.

Judgment was therefore suspended, on plaintiffs' suggestion of a diminution of the record, and a *certiorari* issued, by which the case is now brought before the court.

Points.

I. The defendant in error has no patent for an improved spiral paddle-wheel.

American authorities.—Phillips on Patents, 224, and cases; Curtis, 127, 208; Sullivan v. Redfield, Paine C. C. 442; Shaw v. Cooper, 7 Pet. 292, 315 [4 Am. & Eng. 286]; Evans v. Chambers, 2 Wash. C. C. 125; Barrett v. Hall, 1 Mason, 476; Whittemore v. Cutter, 1 Gallis. 437; Evans v. Eaton, Peters' C. C. 340, 341; Kneass v. Schuylkill Bank, 4 Wash. C. C. 9; Cutting *et al.* v. Myers, 4 Wash. C. C. 220; 1 Stat. at Large, 319, secs. 1, 3.

English authorities.—Godson on Patents, 108, 113, and cases; Neilson v. Harford, Webst. 312 [3 Am. & Eng. 355], and arg.; Rex v. Wheeler, 2 Barn. & Ald. 350 [1 Am. & Eng. 317]; S. C., 3 Merivale, 629; Glegg's Patent, Webst. 117; Russell v. Cowley, Webst. 470 [2 Am. & Eng. 76]; Househill v. Neilson, Webst. 679; Webster on Patents, p. 65; Hindmarch, 41, 42, 509-511; Godson, 170.

II. If the defendant's patent is for the combination of instruments described in the specification, there is no pretence that the combination has been infringed; if for several improved machines, it cannot be supported in law. Evans v. Eaton, 3 Wheat. 454 [4 Am. & Eng. 16]; Barrett v. Hall, 1 Mason, 447; Moody v. Fiske, 2 Mason, 112; Wyeth v. Stone, 1 Story, 290.

III. The claim of the specification is too broad, and the patent therefore void; and the patent does not distinguish the improvement from other inventions.

English authorities.—McFarlane v. Price, 1 Starkie, 199 [1 Am. & Eng. 227]; *In re* Nickels, Hindmarch on Patents,

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186 ; Hill v. Thompson, 3 Merivale, 622 ; S. C., 8 Taunton, 532 [1 Am. & Eng. 293] ; Williams v. Brodie, Davis's Pat. Cases, 96, 97 ; Manton v. Manton, Davis's Pat. Cases, 349 [1 Am. & Eng. 189] ; Minter v. Wells, 1 Webst. 130 [2 Am. & Eng. 26].

American authorities.—Dixon v. Moyer, 4 Wash. C. C. 69 ; Evans v. Hettich, 3 Wash. C. C. 425 ; Lowell v. Lewis, 1 Mason C. C. 189 ; Ames v. Howard, 1 Summer, 482 ; Evans v. Eaton, 3 Wheat. 454 [4 Am. & Eng. 16] ; Woodcock v. Parker, 1 Gallis. 438 ; Whittemore v. Cutter, 1 Gallis. 478 ; Odiorne v. Winkley, 2 Gallis. 51 ; Barrett v. Hall, 1 Mason, 447 ; Sullivan v. Redfield, Paine C. C. 441 ; Evans v. Eaton, 7 Wheat. 408 [4 Am. & Eng. 105] ; Isaacs v. Cooper, 4 Wash. C. C. 261 ; Cross v. Huntly, 13 Wend. 385 ; Head v. Stevens, 19 Wend. 411 ; Kneass v. Schuylkill Bank, 4 Wash. C. C. 9 ; Morris v. Jenkins *et al.* 3 McLean, 250 ; Peterson v. Wooden, *Ib.* 248.

IV. The drawing filed March 27, 1844, was not legal evidence of the defendant's patented invention, because there was a drawing filed by the patentee on the 12th of February previous, which was, by the second section of the act of 1837, with his letters patent, the only legal evidence of his invention, as patented, that could be offered in any judicial court of the United States.

V. The patentee, after an alleged correction of his letters patent by filing the second drawing, could not, in law, avail himself of that correction to cover causes of action that had previously accrued ; and, in the absence of proof of any subsequent infringements, the plaintiffs here were entitled to a verdict below. *In re* Nickels, Turner & Phillips, 44 ; S. C., 1 Webst. 659 ; Hindmarch on Patents, (Eng. ed.,) 216, *et seq.* ; Wyeth v. Stone, 1 Story, 290 ; Woodworth v. Hall, 1 Wood. & Min. 248, 389.

VI. The defendants below, having sought to establish, by the testimony of Jones, Keller, Birkbeck, Dunham, Belknap, Bartol, Stillman, Cunningham, Mapes, Cox, and Kemp, the non-conformity of Emerson's specification of 1834 to the drawing filed in 1844, and having disputed, at

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every step, that Ericsson's propeller, or anything like it, could be made by taking the two together, were entitled to the instructions sought by their eighth prayer; and the various instructions of the court on the subject of the drawing amounted distinctly to a denial of that prayer.

VII. The original letters patent were produced in evidence. There was no drawing annexed, referred to in them, or accompanying them. No case has gone so far as to say that any other drawing shall be permitted to enlarge or add to the specification. *Curtis on Patents*, 123, 125, 173, 174, and cases there cited; *Brooks v. Bicknell*, 3 McLean, 250, 261.

VIII. The wheel patented by John S. Trott, in 1818, having been proved to be identical with that made by Ericsson, with the single exception of the spiral curvature to the arms and the paddles, the ninth prayer of the defendants below should have been allowed.

IX. The court erred in rejecting a portion of C. M. Keller's deposition.

X. The court erred in admitting testimony as to the patent fee paid to Captain Ericsson as a measure of damages against the manufacturers.

XI. The court erred in refusing the sixteenth prayer, on the subject of damages; and in instructing the jury, as matter of law, that the actual damages sustained by Mr. Emerson, by the manufacture of the Ericsson propeller, was the sum the patentee was entitled to for the right to make his propeller, to be used in the several vessels built by the defendants, and in which the Ericsson propeller had been placed by them. The defendants were the manufacturers, built no vessels, used no propellers, sold no propellers, but were merely employed to make. The actual damage, by the invasion of the right to make, was the maker's profit, and not the patentee's fee. *Curtis on Patents*, 292-295, and cases there cited; *Bryce v. Dorr*, 3 McLean, 582; *Whittemore v. Cutter*, 1 Gallis. 429; *Earle v. Sawyer*, 4 Mason, 1, 12.

XII. Whether or not there was reason for withholding

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damages altogether, was a question for the court, and should not have been left to the jury, where there was no dispute about the facts, as in the case presented by the record. *Bend v. Hoyt*, 13 Peters, 263; *Ellis v. Paige*, 1 Pick. 43; S. C., 2 Ib. 71; *Livingston & Gilchrist v. Maryland Ins. Co.*, 7 Cranch, 506; *Gilbert v. Moody*, 17 Wend. 354; *Oliver v. Maryland Ins. Co.*, 7 Cranch, 495; *Reynolds v. Ocean Ins. Co.*, 22 Pick. 191.

XIV. Whoever first perfects a machine is entitled to the patent, and is the real inventor, although others may previously have had the idea, and made some experiments toward putting it in practice. He is the inventor, and is entitled to the patent, who first brings a machine to perfection, and renders it capable of useful operation. *Washburn v. Gould*, 3 Story, 133.

Of *Mr. Gillet's* argument for the defendant in error, the reporter has no notes.

Mr. Justice WOODBURY delivered the opinion of the court.

This is the same case which has been before us on a former occasion, as reported in 6 Howard, 437 [p. 1, *ante*].

The decision there announced, on the points presented by that record, was accompanied by a ruling that, in writs of error in patent cases, all the questions of law which arose at the trial might be brought up, and not, as there, only such as the court below should deem reasonable. Thereupon the counsel for the plaintiffs in error moved for a *certiorari* to transfer here such other questions as had not been before brought up and decided.

This *certiorari* and a subsequent one having been allowed, the same counsel proceeded to argue the questions appearing on the whole record, as well those on which an opinion had already been pronounced, as the new questions arising on the additional parts of the record.

This was objected to by the defendants in error, but permitted by the court, on the ground that a division among

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them existed before, and that two, if not three, members of the court were now present, who were not when the former opinion was agreed to. On this state of things, having heard the whole case fully reargued, the first inquiry is, if any of the points before settled appear to have been ruled erroneously, either on the record as it then stood, or on it including the new matter since brought up.

It is very manifest that this matter does not relate to any of the former points, and consequently does not impair, or in any way affect them, or our decision before given upon them.

In the next place, has the new argument, or the further consideration of the case, presented anything which justifies a change of views on what was then settled? We think not.

Without repeating the whole reasoning and precedents stated in 6 Howard, in support of the former views of the court, we shall only submit a few further explanations concerning some of them.

On the leading question, whether the invention is sufficiently described in the letters patent, it may be sufficient to add, that this depends on what must be considered as a part of those letters.

The letters in this case were taken out in 1834, under the act of 1793, and the law did not then require the patentee or the Commissioner to make the specification a part of the letters patent, as it does by the act of 1836. But the inventor still had a right, if he pleased, for greater fulness and clearness, not only to file a specification, as such, and as the law directed, but to advise the Patent Office also to incorporate it into the letters as a part of them by express terms of reference. This it would be peculiarly proper for the officers of the government to do, as the language of the specification is the language of the inventor, and describes the invention in his own way, and, it is to be presumed, in the best way; whereas the language of the letters is that of the Commissioner of Patents or the President, who signs them, and if standing alone might, by mistake or accident,

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not fully describe the invention. Here, then, in order to avoid any such untoward result, they did expressly incorporate the whole specification into the patent as "a part" of it, besides referring to it for "a description" of the improvement.

This the officers had a right to do, as grantors in deeds have a right to refer to other deeds or papers, and annex or incorporate them as a part of the instrument of conveyance. See cases cited in 6 Howard.

A similar course is often pursued in policies of insurance by the makers of them, and in other contracts, as well as in declarations on accounts annexed. That such a course, too, is prudent, and to be encouraged in the case of patents, is shown by Congress in the act of 1836, imperatively requiring it to be done thereafter.

The specification being, therefore, in this case, voluntarily annexed, and made, in express terms, a part of the patent, though before the law required it to be done, it still became a portion of the patent by general principles, as clearly as it does since by the words of the law. It follows, also, that, being thus adopted and recognized as "a part" of the patent itself, if the improvement is there described with due fulness and certainty, it is so described in the patent itself.

But it is manifest that it is thus described there. In the very first lines, it is set out not only as "an improvement in the steam-engine," but "in the mode of propelling therewith either vessels on the water or carriages on the land." These together constitute a full and satisfactory description of the whole. It is an "improvement in the steam-engine," not in generating steam, but in applying it; and after describing minutely the application of it for propelling carriages on land, it proceeds to point out, "when used for steamboats," how it is to be connected with "an improved spiral paddle-wheel."

After all this, no one, it is believed, could justly contend that the patent itself was defective, or likely to mislead in describing the improvement which the patentee claims to have invented.

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Referring to the former opinion in this case for other reasons and decisions in support of this view, we proceed to the next objection. It is, that the improvement thus described is for more than one invention, and that one set of letters patent for more than one invention is not tolerated by law.

But grant that such is the result when two or more inventions are entirely separate and independent, (though this is doubtful on principle,) yet it is well settled, in the cases formerly cited, that a patent for more than one invention is not void, if they are connected in their design and operation. This last is clearly the case here. They all here relate to the propelling of carriages and vessels by steam, and only differ, as they must, on water, from what they are on land; a paddle-wheel being necessary on the former, and not on the latter, and one being used on the former which is likewise claimed to be an improved one. All are a part of one combination when used on the water, and differing only, as the parts must, when used to propel in a different element.

In *Wyeth et al. v. Stone et al.*, 1 Story, 288, in order to render different letters patent necessary, it is said, the inventions must be "wholly independent of each other, and distinct inventions for unconnected objects,"—as one to spin cotton, and "another to make paper."

Again, if one set of letters patent is permissible for one combination consisting of many parts, as is the daily practice, surely one will amply suffice for two or three portions of that combination.

The next point before decided was, that the description was sufficiently clear and certain. Under the instructions of the court, the jury found that it was clear enough to be understood by ordinary mechanics, and that machines and wheels could readily be made from it, considering the specification as a whole, and advertg to the drawings on file. This is all which the law requires in respect to clearness, and it does not appear necessary to add anything to what is cited and stated in the former opinion in support of the instructions given below on this point.

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The court did right, too, in holding to the propriety of looking to the whole specification, and also to the drawings, for explanation of anything obscure. The drawings, then, being proper to be referred to in illustration of the specification, they could be restored when burnt, and if appearing in some respects erroneous, they could be corrected. That this last was done, and done well, was distinctly shown by Dr. Jones, a skilful draughtsman and expert. It would be unreasonable to prevent or refuse the correction of such errors, so as not to mislead nor cause contradictions; because, after all, it is the specification which governs, and the drawings merely illustrate. It is true, that it would not be proper to leave the drawings so long, not restored nor corrected, as to evince neglect, or a design to mislead the public; and the jury were allowed to decide what was a reasonable time for this purpose, under the circumstances of the case, and the duties imposed by law on the patentee. This being a point in part of law and in part of fact, it was properly submitted to the jury, and their finding must stand, unless it is shown, as has not been done, that illegal instructions were given to them concerning it, or that proper legal directions were omitted. See analogous cases, *Chitty on Bills*, 336, 379; [*Scott v. Lifford*] 9 East, 347; [same case] 1 Camp. 246; *Johnson v. Sutton*, 1 D. & E. 514; [*Taylor v. Williams*] 2 Barn. & Adol. 857, 858.

In respect to another objection, of the claim being too broad, that was fully answered in the former opinion; and so was the objection that damages could not be recovered after the fire, and before the restoration of the specification and drawings.

Certain new points are also presented on the new matter brought here by the *certiorari*. Among them, no one seems specially relied on, which is not involved in those already considered, except the instructions on the rule for settling the whole damages. It is true, that the verdict appears large in amount. But if too large, and the jury were properly instructed on the subject, the fault is theirs rather than the court's, and cannot be corrected here.

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It is not, however, clear that it is too large, as it does not appear to have exceeded, and, indeed, it rather falls short of, the price paid for a license to make an improvement like this, to be used in so many vessels. It is the making and selling to be used, and not the selling or buying or making alone, for which full damages are usually given. [U. S. v. Bank of Georgia] 10 Wheaton, 350; Curtis on Pat. 256, 3 note; [Boyd v. M'Alpen] 3 McLean, 427. The court, therefore, being called on to lay down some general rule, very properly informed the jury, that such price might be a suitable guide, and it is the customary one followed for making and selling patent stoves, lasts, spokes, &c., and seems once to have been treated by law as the chief guide in all patent cases,—as the act of 1791, sec. 5, (1 Stat. at Large, 322,) gave three times its amount when one either made for sale or used a patented machine.

But that law being repealed, and the damages now left open for each case, the judge correctly added, that a fair ground existed for a mitigation below that amount, if the maker of the machine appeared in truth to be ignorant of the existence of the patent-right, and did not intend any infringement. That would not, however, furnish a reason, as was insisted by the plaintiffs in error, for allowing no damages when making the machine *to be used*, and not, as in some cases, merely for a model, or for fancy, or philosophical illustration. Whittemore v. Cutter, 1 Gallis. 429; Jones v. Pearce, Webster's P. C. 125 [1 Am. & Eng. 472]; [Bryce v. Dorr] 3 McLean, 583. The intent not to injure, also, never exonerates, as is contended, in these cases, from all damages for the actual injury or encroachment, though it may mitigate them. Bryce v. Dorr, 3 McLean, 583. The further general suggestion by the judge, to give only the actual damages, was well calculated to prevent anything vindictive or in excess, and justified the jury to go still lower than they did, if appearing just to them, and as has sometimes been done in this class of cases. See Lowell v. Lewis, 1 Mason C. C. 182; [Meeker v. Wilson] 1 Gall. C. C. 420.

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That, however, was a matter of discretion for the jury, under all the circumstances, and not a question of law for the court.

Nor will the consequence of damages so large as the present seem harsh, if thereby any further recovery should be prevented for using or selling as well as making the machine, but which point is not decided by us now, because not raised on the record. It may be added, however, in this connection, that the defendants are certainly relieved now from one consequence by way of damages or penalty which once existed, and which was to forfeit the materials of the machine to the patentee. See section 4 in act of April 10, 1790, 1 Stat. at Large, 111. It must be a very extreme case, too, where a judgment below should be reversed on account of damages like these in actions *ex delicto*, and when the instructions suggested to the jury the true general rule and the leading ground for mitigation, as well as against excess, and when, if appearing to be clearly excessive under all circumstances, a new trial could have been moved and had on that account in the Circuit Court.

Judgment below affirmed.

Mr. Chief Justice TANEY, Mr. Justice CATRON, Mr. Justice DANIEL, and Mr. Justice GRIER dissented.

Mr. Justice CATRON.

To the opinion just delivered, I dissent. I think the letters patent are for a single improvement on the steam-engine, and that the schedule has added two distinct inventions in addition : the one on the paddle to a wheel propelling machinery or a vessel of any kind in the water ; and the second in applying the power of the shaft to turning a capstan by means of a cog-wheel. These two claims are entirely independent of the improvement claimed in the letters patent actually granted ; this is for inventing a piston and shaft which turn a wheel without employing a crank. And as this controversy depends on a supposed

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infringement of the improved paddle, (which, in my judgment, is not covered by the letters,) I therefore think that the suit cannot be maintained on the face of the letters.

Secondly, if these three distinct improvements had been claimed and granted in the letters, and described in the schedule, then the patent would be void, as I think, because no more than one invention, distinct and disconnected from others, can be granted in the same letters. Such is the construction that has been given to the legislation of Congress at the Patent Office, and is supposed by me to be the correct one. If three independent inventions can be patented and monopolized together, so any number may be. By this means, the grant may cover many fictitious claims, with some valid ones, which latter will stand protected, so that little or no risk will be run by obtaining a grant for that which is not new ; and by this mode of proceeding at the Patent Office, fictitious claims may cover and assume to monopolize the ordinary implements now in use on the farm and in the workshop, and, yet more than is now the case, harass the public with fictitious and ill-founded claims to make and sell exclusively things in daily and extensive use. Although the claim may be fictitious, still this does not protect the public from harassment, as usually men using cheap implements cannot afford to litigate in the United States courts. It would be far better to allow the claim, unjust as it is, and pay the patentee his fraudulent demand, than incur the expense of a suit, which the patentee or his assignee may well afford to prosecute.

ORDER. This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the Southern District of New York, and was argued by counsel ; on consideration whereof, it is now here ordered and adjudged by this court, that the judgment of the said Circuit Court in this cause be, and the same is hereby, affirmed with costs, and damages at the rate of six per centum per annum.

AFFIRMED.

Notes and Citations.

Notes :

2. The specification is a part of the letters patent.

Hogg v. Emerson, 6 How. 437 [p. 1, *ante*].

O'Reilly v. Morse, 15 How. 62 [p. 483, *post*].

3. Joinder of inventions in one patent.

Evans v. Eaton, 3 Wheat. 454 (4 Am. & Eng. 16).

Hogg v. Emerson, 6 How. 437 [p. 1, *ante*].

Bennet v. Fowler, 8 Wall. 445.

Gill v. Wells, 22 Wall. 124.

Parks v. Booth, 102 U. S. 96.

4. Joinder of combinations in one patent.

Bates v. Coe, 98 U. S. 31.

5. Drawings can only be amended from the model on reissue.

Gill v. Wells, 22 Wall. 1.

7. License fee as measure of damages.

Seymour v. McCormick, 16 How. 480.

City of New York v. Ransom, 23 How. 487.

Packet Co. v. Sickles, 19 Wall. 611.

Burdell v. Denig, 92 U. S. 716.

Root v. Railway Co., 105 U. S. 189.

Clark v. Wooster, 119 U. S. 322.

(Royalty) Birdsall v. Coolidge, 93 U. S. 64.

Notes and Citations.

8. Innocent infringer, rule of damages.

Corning v. Burden, 15 How. 252.*Livingston v. Woodworth*, 15 How. 546.**Patent in suit :**

No. . Emerson, J. B. March 8, 1834. Steam Engine.

OTHER SUITS ON SAME PATENT :

Emerson v. Hogg, 1845. 2 Blatch. 1 ; Fish. Pat. Rep. 77.*Hogg v. Emerson*, 1848. 6 How. 437 ; 2 Robb. 655 ; 1 Whit. 438
[p. 1, *ante*].**Cited :**

IN CIRCUIT COURTS :

Mabie v. Haskell, October, 1865. 2 Cliff. 507.*In re Hawkes*, July, 1867. Ms. D. C.*Parham v. Amer. Buttonhole Overseaming & Sewing Machine Co.*,
April, 1871. 4 Fish. 468 ; 1 Leg. Gaz. Rep. 145.*Geier v. Goetinger*, October, 1874. 1 Ban. & Ard. 553 ; 7 O. G.
563.*Banker v. Bostwick*, June, 1880. 5 Ban. & Ard. 463 ; 18 O. G. 61.*Sessions v. Romadka*, July, 1884. 21 Fed. Rep. 124 ; 28 O. G. 721.

IN DECISIONS OF COMMISSIONER OF PATENTS :

Waring v. Wilkerson (vice versa), November, 1878. 15 O. G. 246.

Notes and Citations.

Glidden v. Copeland *et al.*, March, 1879. 15 O. G. 920.

Ex parte Hookham, July, 1879. 16 O. G. 545.

Ex parte Young, December, 1885. 33 O. G. 1390.

IN STATE COURTS :

Burke v. Partridge, June, 1878. 58 N. H. Rep. 349 ; 10 Reporter, 310.

IN TEXT-BOOKS :

2 Abb. Pat. Law, 1886, pp. 229, 357, 358.

Walker on Pats., 1883, pp. 130, 374.

Curtis on Pats., 4th ed., §§ 110, 262, 333.

Syllabus.

THOMAS OTIS LE ROY AND DAVID SMITH,
PLAINTIFFS IN ERROR, v. BENJAMIN TATHAM,
JUNIOR, GEORGE N. TATHAM, AND
HENRY B. TATHAM.

14 How. 156-189. Dec., 1852.

[Bk. 14, L. ed. 367 ; 1 Whit. 657.]

Principle. Patentability. Process—test of infringement. Patentee bound by claim. Particular patent construed. Novelty is for jury.

1. A "principle" in the abstract is a fundamental truth ; an original cause ; a motive. It is not patentable (p. 351).
2. Where a power of nature is applied to a useful purpose, the invention consists in the processes used to extract, modify, and concentrate the natural agencies—consists not in discovering them, but in applying them to useful objects (p. 351).
3. A patent is not good for an effect, or the result of a certain process (p. 351).
4. The test of infringement of a process is whether defendants have used substantially the same process to produce the same result (p. 352).
5. Where patentees have founded their claim on the specification, they can neither modify nor abandon it in whole or in part (p. 353).
6. The claim in Reissue No. 82, of March 14, 1846, granted J. & H. Hanson (original Patent No. 2021, March 29, 1841), Lead Pipe Machine, construed to be for a combination of machinery and not for a process (p. 353).
7. The novelty of this combination claim, not as to the parts of which it is composed, but as to the combination, is a material fact for the jury to sustain the claim (p. 354).

[Citations in the opinion of the Court:]

(1) Househill Co. v. Neilson, Webs. P. C. 633, pp. 352, 357, 366.

(2) Bean v. Smallwood, 2 Story, 406, p. 354.

[In Dissenting Opinion.]

(3) Hogg v. Emerson, 6 How. 437, p. 357.

Statement of the case.

- (4) Webs. P. C. 373, p. 357.
- (5) Ames v. Howard, 1 Sumn. 492, p. 359.
- (6) Boulton v. Bull, 2 H. Bl. 31, 463, p. 362.
- (7) Neilson v. Harford, 3 Am. & Eng. 231, pp. 363, 365.
- (8) The King v. Wheeler, 2 B. & Ald. 340, p. 363.
- (9) Huddart v. Grimshaw, Webs. P. C. 94, p. 364.
- (10) Forsyth's Patent Webs. P. C. 97, note, p. 364.
- (11) Curtis on Pats. 230, p. 364.
- (12) Jupe v. Pratt, Webs. P. C. 147, p. 365.
- (13) Curtis on Pats. 74, 148, 232, p. 365.

[Mr. Justice Curtis, having been of counsel for the defendants in error, upon the letters patent drawn in question in this case, did not sit at the hearing.]

THIS case was brought up by writ of error from the Circuit Court of the United States for the Southern District of New York.

The declaration was filed by the defendants in error on the 8th of May, 1847, to recover damages in a plea of trespass upon the case, from the plaintiffs in error and Robert W. Lowber, for the alleged infringement of their patent for new and useful improvements in machinery or apparatus for making pipes and tubes from metallic substances.

The declaration alleged that John and Charles Hanson, of Huddersfield, England, were the inventors of the alleged improvements, on or before the 31st of August, 1837.

That on the 10th of January, 1840, the Hansons assigned, in writing, to H. B. & B. Tatham, two of the defendants in error, the full and exclusive right to the said improvements.

That on the 29th of March, 1841, letters patent of the United States were granted to H. B. & B. Tatham, as assignees of the Hansons, for the said improvements.

That on the 12th of October, 1841, H. B. & B. Tatham assigned to G. N. Tatham, the remaining defendant in error, one undivided third part of the said letters patent.

That on the 14th of March, 1846, the said letters patent having been surrendered, on account of the defective specifications of the said improvements, new letters patent were issued therefor on an amended specification, whereby there

Statement of the case.

was granted to the plaintiffs below, their heirs, &c., for the term of fourteen years from the 31st of August, 1837, the full and exclusive right of making, vending, &c., the said improvements, a description whereof was annexed to and made a part of such patent.

That the letters patent were of the value of \$50,000 ; and that the defendants below had wrongfully and unlawfully made, used, and vended the said improvements, and made lead pipe to the amount of 2,000 tons, thereby to the injury of the plaintiffs \$20,000.

To this declaration, the defendants Le Roy and Smith pleaded not guilty, the defendant Lowber making no defence, and permitting a default to be taken against him.

The cause was tried at the April Term, 1849, and a verdict rendered by the jury in favor of the plaintiffs for \$11,394, and costs, and a bill of exceptions was tendered by the defendants below.

On the trial of the cause below, the plaintiffs produced—

1. Their patent of 1846, and the specification referred to therein and making a part of the same.

2. They read in evidence certain agreements between the defendant Lowber and the defendants Le Roy and Smith.

3. They gave evidence tending to prove that J. & C. Hanson were the original and first inventors of the improvement ; that the invention was a valuable one, &c.

4. That lead, recently become set, under heat and pressure, in a close vessel, would reunite perfectly after a separation of its parts ; that in the process described in the said patent pipe was so made ; that the Hansons were the first and original discoverers thereof ; and that such discovery, and its reduction to a practical result in the mode described in the patent, was useful and important.

5. That the defendants Smith and Leroy had been jointly engaged with Lowber in making lead pipe upon the plan described in the letters patent, and selling the same, and had thus made and sold large quantities of pipe ; that the agreement between them, relative to the manufacture of pipe, was colorable only, and was made as a cover to pro-

Statement of the case.

tect Le Roy and Smith, and throw the responsibility on the defendant Lowber, who was insolvent.

6. That the improvement described in the said letters patent was the same invention for which letters patent had been granted to the Hansons, in England, and to H. B. & B. Tatham here, as their assignees.

7. That the plaintiffs had been ready, and had offered to sell the said invention, and had sold the same for a large portion of the United States, within the last eighteen months.

The defendants below then read in evidence—

1. The description of the English patent to the Hansons.

2. The patent to H. B. & B. Tatham, of 1841, and the specification thereof.

3. The specification of an English patent granted to Thomas Burr, of 11th April, 1820.

4. The patent and specification of Burroughs Titus, granted in 1831.

5. The patent granted to George W. Potter, in 1833.

6. The evidence of George Fox, tending to show the invention and use by him of a similar machine, in 1830.

7. The specification of a patent to John Hague, in 1822.

8. The specification of a patent granted to Busk & Harvey, in 1817.

9. The specification of a patent granted to Ellis & Burr, in 1836.

10. The specification of a patent granted to Joseph Bramah, in 1797.

11. The defendants then gave evidence tending to prove that J. & C. Hanson were not the original and first inventors of the combination of machinery described in the letters patent.

12. That the invention was not useful, nor the lead pipe, made upon the plan described, good.

13. That the combination of machinery described in public works as having been invented by Titus, Potter, Fox, Hague, Bramah, and Busk & Harvey, were substantially the same as that described in the plaintiffs' patent.

Statement of the case.

14. That lead, when recently become set, under heat and extreme pressure, in a close vessel, would not reunite perfectly after a separation of its parts ; and that in the process as described in the plaintiffs' patent it was not in a set, but in a fluid state when it passed the bridge.

15. That the defendants Le Roy and Smith were not concerned in the manufacture of the pipe, or in making or using the machinery ; that it was made for them by the defendant Lowber, at a certain price per hundred pounds ; and that they had not infringed upon the patent of the plaintiffs.

16. That the improvement described in the plaintiffs' patent of 1846 was not the same invention as that for which letters patent had previously been granted to the Hansons and to H. B. & B. Tatham.

17. That for the space of eighteen months, from the date of the patent of 1841, the plaintiffs had neglected to put and continue on sale to the public, on reasonable trust, the invention or discovery for which the said patent issued.

The evidence being closed, the case was argued before the jury, after the court had given the charge, which will be presently stated. The jury found a verdict for the plaintiffs, which, when increased by the court, amounted to \$11,748.60. The following bill of exceptions brought up the rulings of the court upon the several points made :

The evidence being closed, the judge charged the jury—

That the first question which it was material to determine, was what was the invention or discovery of John and Charles Hanson, for which their patent had issued, as the precise character of that invention had been the subject of controversy on the trial.

The patentees state, in their specification, that the invention consists in certain improvements upon, and additions to, machinery for making pipes of metal, capable of being pressed, as described in Burr's patent, dated April 11, 1820. They then described Burr's apparatus, and the process by which the pipe was made by it, and state the defects of

Statement of the case.

that plan, in consequence of which, they say, it failed to go into general use.

These defects they claim to have overcome and remedied ; and state that they had found that lead, and some of its alloys, when just set, or short of fluidity, and under heat and great pressure, in a close vessel, would reunite, after a separation of its parts, as completely as if it had not been separated ; or, in other words, that under these circumstances it could be welded.

That on this discovery, and in reference to and in connection with it, they made a change in the machinery of Burr, by which they succeeded in making perfect pipes, and were enabled to use a bridge at the end of the cylinder and short core, and thus surmount the difficulty of the Burr machine.

They also state that they do not claim any of the parts—the cylinder, core, die, or bridge ; but that they claim the combination when used to form pipes of metal, under heat and pressure, in the way they have described.

There can be no doubt that if this combination is new, and produces a new and useful result, it is the proper subject of a patent. The result is a new manufacture.

And even if the mere combination of machinery in the abstract is not new, still, if used and applied in connection with the practical development of a principle newly discovered, producing a new and useful result, the subject is patentable. To which last opinion and decision, the counsel for the defendants did then and there except.

In this view, the improvement of the plaintiffs is the application of a combination of machinery to a new end,—to the development and application of a new principle, resulting in a new and useful manufacture.

That the discovery of a new principle is not patentable ; but it must be embodied and brought into operation by machinery, so as to produce a new and useful result.

Upon this view of the patent, it is an important question, for the jury to determine, from the evidence, whether the fact is established on which the alleged improvement is

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founded, that lead, in a set or semi-solid state, can thus be reunited or welded after separation.

The judge here commented briefly upon the testimony, referring to the experiments which were testified to, and the results of which were exhibited to the jury, on the part of the plaintiffs and defendants, and in continuation stated :

That there was one experiment, which was testified to by Mr. Keller, and the result of which was shown to the jury, which was made under circumstances that seem not to be subject to any misapprehension, and which, if he is not mistaken, and his testimony is correct, would seem to settle the question. But this was a question of fact, to be decided by the jury on the evidence. Hereupon the counsel for the defendants excepted to this part of the charge of the judge. That it had been objected that the improvement described in the patent of March 14, 1846, was different from that of March 29, 1841. The act only authorized a reissue for the same invention, the first specification being defective. That he had compared the descriptions contained in the two patents ; and, though the language was in some parts different, it would be found that the improvement was substantially the same, and that he therefore apprehended they would have no great difficulty in this branch of the case,—to which the defendants' counsel excepted. That it was also objected that the plaintiffs' patent was invalid, for want of originality ; that the invention had been before described in public works, and Bramah, Hague, Titus, Fox, and Potter were relied on by the defendants. That in the view taken by the court in the construction of the patent, it was not material whether the mere combinations of machinery referred to were similar to the combination used by the Hansons, because the originality did not consist in the novelty of the machinery, but in bringing a newly-discovered principle into practical application, by which a useful article of manufacture is produced, and wrought pipe made as distinguished from cast pipe. Hereupon the defendants' counsel excepted.

That in the patents referred to, from the year 1797 to

Statement of the case.

1832, the combination which was claimed to be identical was confessedly used for making pipe, by casting with fluid lead in a mould, and after it was set by the application of water, forcing it out.

And the question is, whether any of these inventions are substantially the same as the plaintiffs',—whether, even if by these modes, pipe had been successfully made for common use, it would have been made in the same manner as the Hansons'—to which opinion the counsel for the defendants excepted.

That it was further objected that the patentees have forfeited their rights, on account of having omitted to put and continue the invention on sale within eighteen months after the patent was granted, upon reasonable terms. The judge here commented upon the testimony on this part of the case, and in continuation said :

That it was not essential, under the section of the statute referred to, that the patentees should take active means for the purpose of putting their invention in market, and forcing a sale, but that they should at all times be ready to sell at a fair price, when a reasonable offer was made.

That it was for the jury to say whether it was put and continued on sale, under this view of the law,—to which opinion, the counsel for the defendants excepted.

That the defendants Le Roy and Smith contend that they have not infringed the plaintiffs' patent; that they were but the purchasers of the pipe, and that Lowber was the manufacturer, under the agreement which has been read.

The judge here referred to the evidence on this branch of the case, and said :

That if the contract made by the defendants with Lowber was *bonâ fide*, and they had no connection with the manufacture of the articles, except to furnish lead and pay him a given price, deducting the expenses, and if the contract was in fact carried out and acted upon in that manner, then the defendants would not be liable. But if the agreement was only colorable, and was entered into for the purpose of deriving the benefit and profits of the business, without

Statement of the case.

assuming the responsibility for the use of the invention, and for the purpose of throwing the responsibility on Lowber, who was insolvent, then they were as responsible as he was.

That aiding and assisting a person in carrying on the business and in operating the machinery, would implicate the parties so engaged. If, therefore, these defendants participated actively in conducting the machine, directing and supervising its operations,—if the evidence establishes that position, then, as aiding and assisting, they are as responsible as Lowber,—to which last opinion and decision, the defendants' counsel excepted.

Prior to the giving of the preceding charge to the jury, the defendants' counsel requested the court to instruct them according to the following written proposition submitted; and his honor, after he delivered the said charge, took up the said propositions in their order, and gave the instructions to the jury which are respectively subjoined thereto.

Proposition I. If the jury believe that the agreements executed on the 13th of April and 13th of May, 1846, by which Lowber, as manufacturer, was to make the pipe for Le Roy & Co. on his machine, at 55 cents the 100 pounds, was real and *bonâ fide*, on an actual dissolution of the partnership of Lowber and Le Roy, and not colorable, to throw the responsibility of working the machine on Lowber alone, then the plaintiffs cannot recover.

Upon which his honor said that he had already given all the instructions he deemed necessary on that point; the proposition was correct, and it was for the jury to decide that fact.

Proposition II. That even if the Tathams first introduced the pipe in question in this country as an article of commerce, that does not give them any right to recover, unless the patents under which they claim were good and valid, for an invention not before known, used, or described in a public work.

Upon which his honor instructed the jury as requested by the defendants' counsel.

Statement of the case.

Proposition III. That if the jury believe that the combination patented by the plaintiffs was before patented by Burroughs Titus, or any one else in this country, or patented and described in a well-known public work abroad, the plaintiffs cannot recover, although such machines thus patented were not actually put in operation, so as to make pipe for the public.

Upon which his honor instructed the jury, that he had already stated to them that the plaintiffs' invention did not consist in the mere combination of machinery, and, therefore, if those patents were for casting lead pipe, the point was not material; that it was not necessary that they would have made pipe for public use to defeat a subsequent patent,—to which instruction, and refusal to instruct the jury as requested, the defendants' counsel excepted.

Proposition IV. That the Tatham patent is void on its face, the Burr machine having the entire combination, including heat and pressure, and the lead in a set state. The patent is void for claiming too much; should only have been for the improvement, viz., substituting the bridge and short core for the long core, and not for the whole combination.

His honor declined to give this instruction, to which the defendants' counsel excepted.

Proposition V. That the bridge and short core having been before patented in this country by Burroughs Titus, and also before used in other machines, no claim could be made for introducing into Burr's combination such bridge.

Upon which his honor instructed the jury as follows: Undoubtedly that is so, but that is not the plaintiffs' claim.

Proposition VI. That the state of the lead, when used as described in the plaintiffs' specification, being a principle of nature, is not the subject of a patent, either alone or in combination with the machine mentioned in that specification.

To which his honor stated the first part of the proposition was correct, and the latter part not; and the defendants' counsel excepted.

Statement of the case.

Proposition VII. That the using of a metal in a certain state, or at a certain temperature, alone, or in combination with a machine, was not the subject of a patent.

To which his honor stated: I have already instructed the jury that the invention, as described by the Hansons, is a patentable subject,—to which the defendants' counsel excepted.

Proposition VIII. That if the jury believe that the combination of cylinder, piston, bridge, short core, die, and chamber, under heat and pressure, was before patented in this country by Burroughs Titus, then the plaintiffs cannot recover.

Whereupon his honor instructed the jury, that novelty in the mere combination of the machinery was not essential to the plaintiffs' right to recover, except as connected with the development and application of the principle before mentioned,—to which the defendants' counsel excepted.

Proposition IX. That if the jury believe that the same combination of cylinder, piston, bridge, short core, die, and chamber, under heat and pressure, had before been patented in England by Bramah, and published in a well-known work, then the plaintiffs cannot recover.

His honor instructed the jury, that Bramah's patent and the Tathams' were not identical, and declined to instruct them as requested,—to all which the defendants' counsel excepted.

Proposition X. That if the jury believed that the Burr, Bramah, Titus, and Hague machines, or either of them, were published to the world in well-known public works, and had the same combination, in whole or in part, as the Hanson machine, up to a certain point, the Tathams' patent is void for claiming too much, viz., the whole combination.

His honor instructed the jury, that he had explained to them his views on that part of the case, and declined to instruct them, as requested, in the form of which the proposition was stated,—and to which the defendants' counsel excepted.

Proposition XI. That the reissue of the patent of 1846,

Statement of the case.

on which alone the plaintiffs can claim, was not warranted by the patent of 1841, it being for a different and not the same invention, misdescribed by inadvertence, accident, or mistake; and, in fact, was a new patent, under color of a reissue.

That if the jury believe that the reissue of 1846 was for a different invention from the patent of 1841, and not for the same invention, misdescribed by inadvertence, accident, or mistake, then the plaintiffs cannot recover.

His honor declined to instruct the jury according to the first branch of this proposition,—to which the defendants' counsel excepted; but did instruct them in the affirmative, upon the last branch thereof.

Proposition XII. That if the jury believe that the combination patented was before described in some well-known public work, either in this country or in England, the plaintiffs cannot recover, although such machine, or the pipe made by it, was never introduced in this country.

Upon which his honor instructed the jury in the affirmative.

Proposition XIII. If the jury believe that the combination claimed was before known or used, to make lead pipe, by others than the Hansons or the Tathams, the plaintiffs are not entitled to recover, no matter how limited such knowledge or use was, if the invention was not kept secret.

Upon which his honor instructed the jury in the affirmative.

Proposition XIV. That if the macaroni machine, or the Busk & Harvey clay-pipe machine, contained the same combination as the plaintiffs' machine, that the plaintiffs cannot recover, by reason of applying the same combination to a new use.

Which instruction his honor declined to give, and stated that he had explained to them his views on that subject; and the defendants' counsel excepted.

Proposition XV. That if the jury believe that Mr. Lowber's machine was used by his men when the lead was in a fluid, and not in a set or solid state, then there was no

Statement of the case.

infringement, and the plaintiffs cannot recover, if the plaintiffs' patent were valid.

Upon which his honor instructed the jury in the affirmative.

Proposition XVI. That the jury are the sole and exclusive judges, as questions of fact, whether the combination and process were the same in plaintiffs' machine as was in Bramah's, or in any other of the machines proved on the trial.

Upon which his honor charged the jury, that this was so, undoubtedly ; subject, however, to the principles of law as laid down in his preceding charge and instructions,—to which the defendants' counsel excepted.

Proposition XVII. That if the jury believe that the lead, when it may be successfully used to make pipe with plaintiffs' machine, must not be in a set or solid state, as described in their specification, and that it can only be thus used in a fluid or pasty state, then that the patent is void, and the jury should find for the defendants, on the ground that the specification does not fairly and fully describe the nature of the invention claimed, nor the condition in which the lead should be used, so as to enable the public to ascertain the true nature of the invention, the manner of using the machine, and the condition in which the lead ought to be used.

Which instruction his honor answered in the affirmative.

The jury then retired to consider their verdict, under the said charge and instructions ; and subsequently, on the 25th day of May, 1849, returned into court with a verdict for the said plaintiffs for \$11,394 damages, and six cents costs.

And inasmuch as the said several matters aforesaid do not appear by the record of the said verdict, the said defendants' counsel did then and there request his honor, the said judge, to put his seal to this bill of exceptions, containing the said several matters aforesaid ; and his honor, the said judge, did, in pursuance of the said request and of the statute in such case made and provided, put his seal to this bill of exceptions, containing the said several matters

Statement of the case.

aforesaid, at the city of New York aforesaid, the same 25th day of May, 1849.

S. NELSON.

UNITED STATES PATENT OFFICE. JOHN HANSON AND CHARLES HANSON, OF HUDDERSFIELD, ENGLAND, ASSIGNORS TO BENJAMIN TATHAM, JR., HENRY B. TATHAM, AND GEORGE N. TATHAM, OF PHILADELPHIA, PENNSYLVANIA. IMPROVEMENT IN MACHINERY FOR MAKING METALLIC PIPES.* SPECIFICATION FORMING PART OF LETTERS PATENT No. 2,021, DATED MARCH 29, 1841; REISSUE No. 82, DATED MARCH 14, 1846.

To all whom it may concern :

Be it known that we, John Hanson, of Huddersfield, in the county of York, England, leaden-pipe manufacturer, and Charles Hanson, of the same place, watch-maker, being respectively subjects of the Queen of Great Britain, have invented certain new and useful Improvements in Machinery or Apparatus for Manufacturing Pipes and Tubes from Metallic Substances; and we, the said John Hanson and Charles Hanson, do hereby declare that the nature of our said invention and the manner in which the same is to operate are particularly described and ascertained in and by the following description thereof, reference being had to the drawings hereunto annexed, numbered, respectively, Sheet 1 and Sheet 2, and to the letters and figures marked thereon—that is to say :

Our invention consists in certain improvements upon and additions to the machinery used for manufacturing pipes and tubes from lead or tin or any alloy of soft metals capable of being forced by great pressure from out of a receiver through or between apertures, dies, and cores when in a set or solid state, set forth in the specification of a patent granted to Thomas Burr, of Shrewsbury, in Shropshire, in England, dated the 11th day of April, 1820, recited in the Repertory of Arts, &c., London, second series for 1822, vol-

* The drawings of the original and reissued patent are identical.—Ed.

J. & C. Hanson. Making Metallic Pipe.

N^o 82.

Fig. 1.

Reissued Mar. 14, 1846.

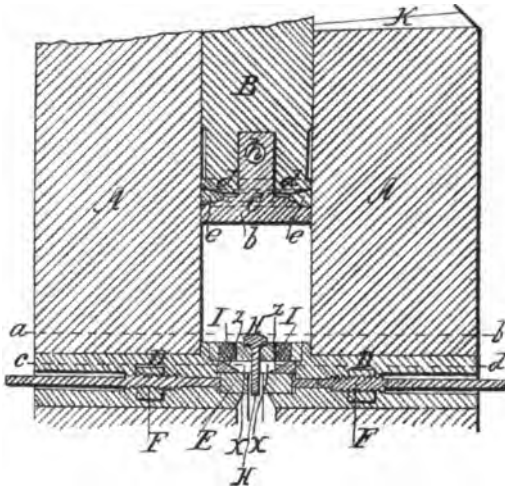


Fig. 3.

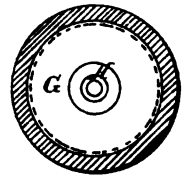


Fig. 4.



Fig. 2.

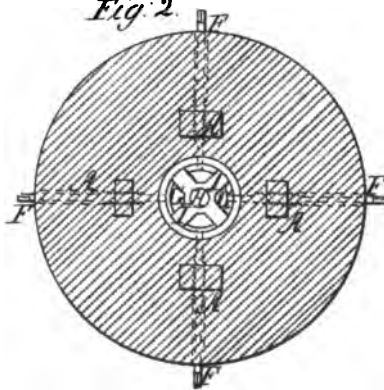


Fig. 15.

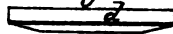


Fig. 6.



Fig. 5.

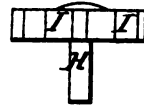
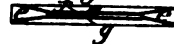
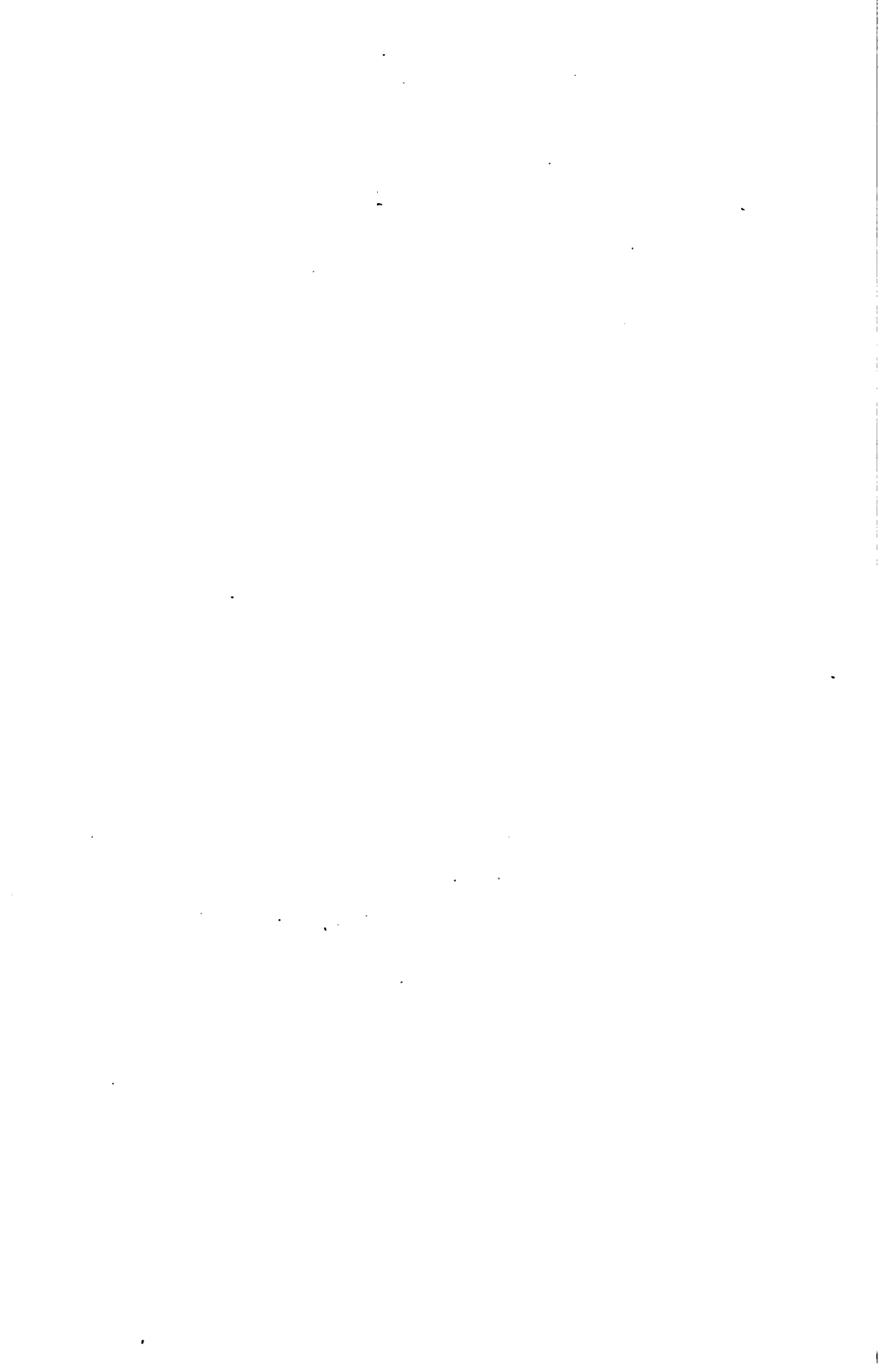


Fig. 18.



Witnesses;
Alfred Day
William North.

Inventors;
John Hanson
Charles Hanson



J. & C. Hanson.
Making Metallic Pipe.

N^o 82.

Reissued Mar. 14, 1846.

Fig: 7.

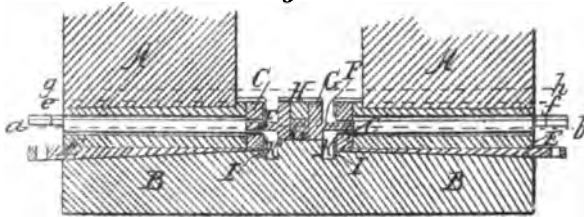


Fig: 10.

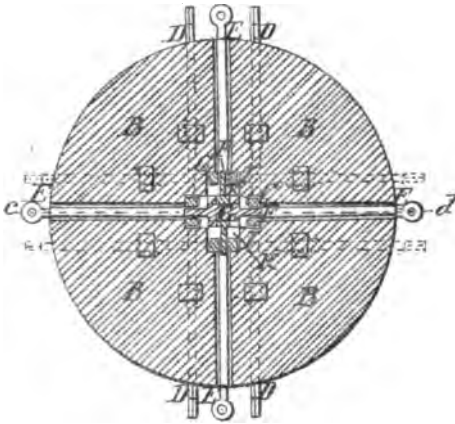


Fig: 11.

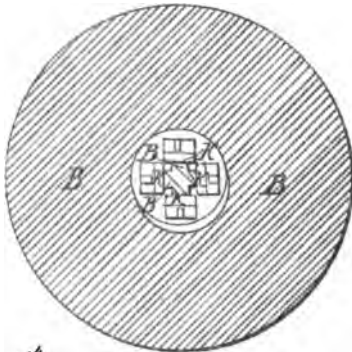
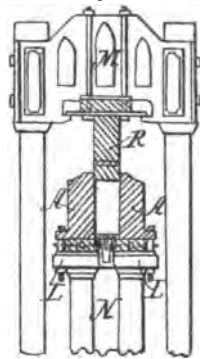


Fig: 22.



Witnesses;
Alfred Dwyer
William North.

Inventors;
John Hanson
Charles Hanson





J. & C. Hanson.

Making Metallic Pipe.

N^o 82

Reissued Mar 14, 1846.

Fig. 19

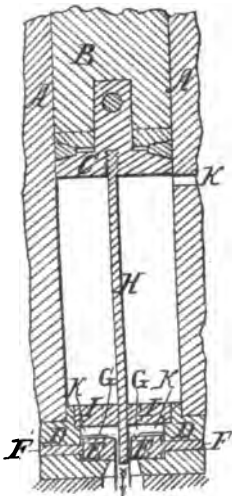


Fig. 13.

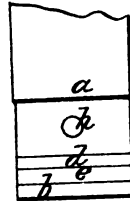


Fig. 14.

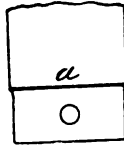


Fig. 17.

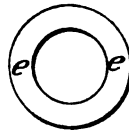


Fig. 16.

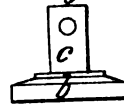


Fig. 20.

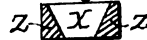


Fig. 21.

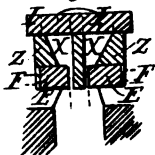


Fig. 12.

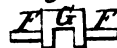


Fig. 8.

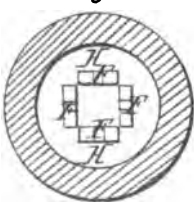
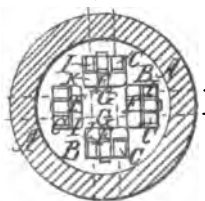


Fig. 9.



Witnesses;

Alfred Day
William Wood

Inventors;

John Hanson
Charles Hanson

Statement of the case.

ume 41, pages 267, &c., and described in the London Journal of Arts and Sciences, No. VI., for November, A.D. 1820, page 411, &c.

The apparatus described by Thomas Burr consisted of a hollow vessel, of iron or other metal, made particularly strong, so as to be able to sustain extreme pressure, and bored sufficiently true for a piston to traverse easily within it. This vessel was closed at one end by the piston, and it was also closed at the other, excepting a small aperture in the centre, into which was fitted a "washer" or die, of steel or other metal, intended to determine the external diameter of the pipe. The best form of this vessel is cylindrical, and it is termed the "cylinder;" but it might be of various shapes. It was intended to contain the lead or other metal to form the pipes. The piston that fitted this cylinder was of about equal length, and when driven home was intended to empty or nearly empty the cylinder of its contents. The core or mandrel which determined the inner diameter of the pipe was a long cylindrical rod attached by one end to the centre of the face of the piston and passing through the centre of the aperture or die, leaving a space between them for the formation of the pipe. The pressure necessary to work the machine was obtained from any mechanism of sufficient force; but a very powerful hydraulic press was preferred, and the piston was driven home into the cylinder by the power of the ram of the hydraulic press, to the top of which press the cylinder was attached. Heat was applied to the cylinder before and at the time of using, whereby the apparatus worked more easily, from causes which will hereinafter sufficiently appear. The metal to compose the intended pipe was admitted into the cylinder in a fluid state through the same aperture by which the pipe afterward issued. Upon the metal becoming set or solid the power of the press was exerted against the piston, whereby it would rise upward and drive out the metal through the washer or die having the long core within it, continually advancing with and before the piston, and thus forming the pipe.

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The machinery and its operation will be better understood by reference to the patent and to the publications mentioned, which are well known among mechanics and scientific men. But the defects of Thomas Burr's plan, when reduced to practice, (especially in the manufacture of pipes of less than one and a half inch in bore,) were found to be so great as to prevent that plan from being brought into common use. The long core in his machinery, being attached to the piston, is liable, in advancing with it, to warp and twist out of the straight line and out of centre with the die, from the difference of expansion and contraction of the metal under different degrees of temperature, and from the extreme pressure required, and from other causes which prevent or destroy the uniformity of the thickness and the centrality of the bore of the pipes or tubes. We have found from experience that lead and some of its alloys, when recently become set, (or in a condition just short of fluidity,) being still under heat and extreme pressure in a close vessel, will reunite perfectly after a separation of its parts, and "heal," as it were, by the first intention, as completely as though it had never been divided. We therefore construct our machinery as follows, to wit:

First. We employ a contrivance which may be called a "bridge," a "cross-bar," a "holder," or a "guide-piece," which is placed near to the die or aperture at the end of the cylinder, for the purpose of receiving and holding a short fixed core or of guiding the movable long core, as hereinafter described. This bridge is fixed within and at the end of the cylinder, and at a short distance from the die through which the pipe issues. It is so formed and arranged as to allow the metal to pass through it and to form around the core.

Secondly. We in general use a short fixed or stationary core for determining the inner diameter of the pipes or tubes, or the bore thereof, in contradistinction to the long movable core, as described in the specification of Thomas Burr. This short core is attached to the bridge in any secure manner; or the bridge and the core might be con-

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structed in one piece and formed in various ways, as convenience might suggest. Instead of this short core, however, we sometimes use the long movable core attached to the piston, resembling that of Thomas Burr, and in this case we employ the bridge for the purpose of guiding the long core and keeping it central with the die, the said movable core traversing freely through an aperture in the centre of the bridge, which in this case operates as a guide-piece.

Thirdly. We form a chamber between the bridge and the die, wherein the metal, after passing the bridge, may reunite into one mass, having the core in its centre. It is the space before the die. The chamber may be made of any convenient form or size. In the accompanying drawings it is exhibited sometimes cylindrical, as at K K, Figure 19, Sheet 1, sometimes nearly square, as at K K, Figs. 7, 9, 10, and 11, Sheet 2, and sometimes conical, as at X, Figs. 1, 20, and 21, Sheet 1, and at Fig. 22, Sheet 2. This chamber may be a part of the cylinder itself, or of the die, or even of the bridge, or it may be formed by a separate piece or pieces securely fastened to the end of the cylinder or otherwise. We prefer the latter plan from the facility it gives of removing and changing the cores and dies, when required, to make pipes of different sizes, and the conical form may be preferable, as it may diminish the friction and require less pressure. The chamber should be larger in area or in diameter than the aperture between the die and the core, to facilitate the passage of the metal and to admit of constriction at the die, by which the metal is brought into its proper form of pipe, it being the narrowest aperture. The die we use is substantially the same as that described by Thomas Burr under the appellation of a "washer." It should be of steel or other metal, with a suitable aperture through it to form the exterior of the pipe. The particular form of the die is not material; but it is essentially different both in shape and object from a mould. It is usually constructed of a separate piece; but it might be formed of several pieces, or be made a part of others; or an aperture in the end of the cylinder itself might be

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used as a die. Various forms might be suggested. It is best, though not essential, that the surface inside which forms the exterior of the pipe should be as short as possible consistently with the strength required to sustain the great pressure and constriction at this narrow passage. We use substantially the same cylinder and piston as described by Thomas Burr. We use much the same heat and the same pressure. We use the bridge either as a guide-piece for his long core, or, in preference, we employ the bridge as a holder for our short core.

The following four enumerated particulars are matters of convenience, but are by no means essential to our apparatus :

First. We use an improved mode of adjusting the die, by which we are enabled easily and readily to bring the same central with the core at any time in case it should be forced out of its relative true position.

Secondly. With a view to prevent the escape of the lead between the piston and the cylinder, we sometimes use an improved construction of the piston, by which its packing is forced outward against the inside of the cylinder by the pressure of the face or end of the piston against said packing. It will be better understood by referring to the drawings. There are also other methods by which the same object can be effected.

Thirdly. We reverse the arrangement of the cylinder and piston by placing the piston above and the cylinder below, instead of securing the cylinder to the top of the hydraulic press, as in Thomas Burr's plan. In our method, when a hydraulic press of that kind is used in which the power of the ram is exerted from above, we should attach the piston to the ram and cause it to be driven downward into the cylinder, fixed stationary to receive it. Very great force, however, being required, we prefer a hydraulic press of the opposite construction, in which the ram is made to rise perpendicularly upward, and in this case we secure the piston to the top of the press and place the cylinder beneath, upon the table or platform, supported by a hollow

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pillar, with an aperture for the passage of the pipe, all resting upon the usual ram of the hydraulic press. Thus, when the ram ascends, the cylinder is made to rise and advance upon the stationary piston. (See Fig. 22, Sheet 2.) In connection with this reversed arrangement, we feed the cylinder through an aperture in the upper end or side opposite to the dies and directly under the piston when the dies and piston are at the greatest distance apart, as shown at K, Fig. 19, Sheet 1, annexed. This aperture is immediately closed as it passes the lower end of the piston. By this means the necessity of melting out the lead which clogs the dies after each operation, and of filling the cylinder through the dies themselves, or through apertures made for this purpose in the solid end of the cylinder, is obviated, such apertures being injurious to the strength in a part where strength is particularly wanted, and said openings requiring, when so used, to be stopped by means of plugs or screws. By this reversed arrangement, also, great facility in working the machinery is obtained. Oil or other lubricating materials may be easily applied to the dies and cores or other parts situated at the bottom of the cylinder previous to pouring in a fresh charge of metal; and, further, the pipes (instead of being forced upward and being received above the top of the hydraulic press, as in Thomas Burr's plan) are caused to issue downward, and may be immediately wound upon reels, or may be received in a long descending cooling-trough, without requiring to be handled while warm and liable to injury.

Fourthly, and lastly. We arrange, combine, and adapt our mechanism so as to make two or more lengths of pipes at one and the same time and operation, and for this purpose we provide two or more apertures furnished with the requisite apparatus for the formation of the pipes.

All these improvements will be better understood by referring to the accompanying drawings, which are sectional and detached views of the cylinder and various parts, to which we shall now refer.

Fig. 1 on Sheet 1 is a vertical section of the lower por-

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tion of a cylinder, with the piston shown therein, and also our improved construction and adaptation of a short core with the die applied thereto. Fig. 2 is a horizontal section of the cylinder, taken in the line *a b* in Fig. 1, or just above the bridge, core, and die. Fig. 3 is another similar partial section of the same, taken on the line *c d* in Fig. 1, or just below the bridge, for the purpose of showing the die more clearly. Fig. 4 is a plan view of the die detached, showing the situation of the core within the aperture. Fig. 5 is a detached side view of the short fixed core and its cross-bar or bridge, and Fig. 6 is a plan view of the same.

A A, Fig. 1, is a portion of the cylinder; B, the piston, which is fixed or stationary in the strong top frame-work of the hydraulic press. C is the piston face or end, (attached to the body of the piston,) the various parts of which are shown separate at Figs. 13 to 18, inclusive, and will be described hereinafter. D is the lower end or bottom of the cylinder, firmly attached thereto by bolts, and also to a strong table or platform placed upon a hollow pillar, which stands upon the top of the usual ram of the hydraulic press. (The table and parts below are shown at Fig. 22, Sheet 2.) E is the die, which is fitted into the bottom of the cylinder in a recess or cup, as shown in the drawings. F F are adjusting-screws for setting or regulating the situation of the die as regards the core. G, Fig. 19, and Figs. 2 and 3, is a thin steel plate fitted into the recess in the bottom of the cylinder, merely for the purpose of preventing the metal from being driven between the edges of the die and the recess, or to the adjusting-screws, the threads of which might otherwise become clogged. It is exhibited in several of the drawings, thus leaving the chamber between the bridge and the die of a cylindrical form. It is, however, not essential, since the chamber may be of any convenient form, and, in fact, the plate G and the ring Z (hereinafter described) may both be dispensed with altogether; but, as a substitute for the plate G, we prefer the steel ring Z, which makes the chamber conical, and is employed and exhibited in Figs. 1 and 20, Sheet 1. The

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diameter of the aperture through the steel ring Z is greatest at the edge or side next to the bridge, and, diminishing downward, it is smallest at the end next to the die, the aperture being thus of the form of an inverted cone ; but we have sometimes made it cylindrical.

Fig. 20 is a view of a section of the ring Z. Fig. 21 is a sectional representation (on another scale) of the chamber X as formed by the ring Z, with the die E below and the bridge I above it. When fitted in their places in the bottom of the cylinder, as exhibited in Figs. 1 and 21, the steel ring rests upon the die E, protects the adjusting-screws F F by interposition, and forms a support for the bridge I.

In Figs. 1, 2, 5, 6, 19, and 21 the bridge is shown by the letter I and the short fixed core by the letter H, where used.

K, Figs. 1 and 19, shows the situation of the aperture in the upper part of the cylinder, or side or end opposite to the dies, through which the cylinder is filled with melted metal, and which is immediately closed by the passage of the piston end. This is more convenient than to withdraw the piston.

Fig. 7, Sheet 2, is another vertical section of the lower part of a cylinder, showing a novel adaptation of our mechanism for making four different lengths of pipes at one and the same time. Fig. 8 is a partial sectional plan view of the same, taken in the line *g h*, Fig. 7. Fig. 9 is a horizontal section or plan view taken at the line *e f*, the plate H being removed. Fig. 10 is another horizontal section taken through the dies and cores in the line *a b* in Fig. 7. Fig. 11 is a plan view of the bottom of the cylinder, the dies and cores being removed to show its construction. Fig. 12 is a side view of one of the cores detached.

In Figs. 7, 9, 10, and 11, Sheet 2, A A is the cylinder ; B B, the bottom of the same. C C are the dies, the cores and apertures of which are in these instances placed in a horizontal position. D D are the screws for properly adjusting the horizontal situation of the dies as regards the cores,

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and E E are wedges for adjusting the vertical position of the dies to the cores. F F are the cores or mandrels fixed into or forming part of stocks or pieces of metal G G, which are mortised into one another, and also into the bottom of the cylinder, as shown in the drawings. The arrows indicate the course of the metal as it passes out of the cylinder in the form of pipes, which is shown by a red tint, as in the other figures. H is the thin steel plate, (here used instead of the steel ring,) having four apertures formed in it corresponding with the wells or recesses formed in the bottom of the cylinder, which steel plate is placed on the top of the dies to prevent the access of metal to the adjusting-screws, and I I are other plates placed in front of the dies for the same purpose and to prevent its access to the wedges. The bottom of the cylinder has four wells or chambers, K K, formed in it, as shown more particularly in Fig. 11, to allow of the passage of the pipe-metal to the different dies and cores.

Fig. 13, Sheet 1, is a representation of the end of the piston upon our improved construction. Fig. 14 is a similar representation with the parts detached. (Shown separate at Figs. 15, 16, 17, and 18.) *a* is the body of the piston. *b* is the lower end or face of the piston, attached to the body by the pin *c*. *d* is the upper part of the piston. Between the inclined or conical-shaped sides of the parts *d* and *b* is placed the ring *e*, (shown detached in plan in Fig. 17 and in section at Fig. 18,) and being cut, consequently it will be obliged to expand and keep the piston tightly packed with the cylinder under great pressure, and thereby prevent the escape of the metal. The piston-face is attached to the body *a* by means of a pin, *h*, passed through it, or in any other convenient manner.

Fig. 19 is a vertical section of a cylinder and piston, showing the adaptation of the guide-piece or bridge, through which the long core attached to the piston passes for the purpose of keeping it central with the die. A A is the cylinder. B is the piston-body; C, the face or end of the piston; D, the bottom of the cylinder; E, the die. G is the

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thin steel plate. (Here exhibited instead of the steel ring that in Figs. 1 and 21 makes the chamber conical in form.) F, the adjusting-screws. H is the long core attached to the piston C, and travelling with it, passing freely through the guide-piece or bridge I I, which has a hole properly bored through it for this purpose, consequently keeping the core at all times steady and central with the die. K is the aperture for supplying the cylinder with melted metal.

Fig. 22, Sheet 2, exhibits the reversed arrangement of the cylinder A and the piston B. L L is the table; M, the top of the hydraulic press. N is the hollow pillar standing upon the ram.

The operation of making pipes or tubes is as follows: The cylinder should be warmed, as mentioned by Thomas Burr, by any convenient means, as well for the purpose of making the apparatus work more easily as to preserve the pipe-metal within at a uniform temperature throughout its mass, and thus to permit it to set equably. When a die, bridge, and core of the required diameter have been applied to the cylinder and properly adjusted, the cylinder and other parts being lowered, a charge of lead or other metal in a fluid state is admitted through the aperture K, Figs. 19 and 1, at the side, or at the end of the cylinder opposite to the die and immediately under the piston, and as soon as this metal is set the hydraulic press is put in action, and as the ram, hollow pillar, table, and cylinder, with its appurtenances, rise upward the feeding-aperture is first closed by the stationary piston, and when this is effected the metal is forced, in the direction of the arrows in Fig. 1, between the arms or apertures of the bridge I through the chamber, and through the space between the die and the core below it, being caused by the extreme pressure and constriction to reunite perfectly around the core in its passage, and leaving the machinery in the form of pipes or tubes. The pipe may be received in a long descending cooling-trough, or may be immediately wound upon reels as fast as it is discharged from the machinery.

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The pipe-metal is represented in the drawings by a tint of red color.

We wish it to be understood that we do not confine ourselves to the mode of operation herein described, by making the cylinder rise with the hydraulic ram and other parts and keeping the piston stationary, as the same effects will take place when the cylinder is stationary and the power of the ram is applied to the top of the piston to cause it to descend into the cylinder; and our improvements might also be applied to a cylinder and press fitted up in other respects upon Thomas Burr's plan, whereby the pipe is received over the top of the machinery, although at some disadvantage; or the press might be laid horizontally or otherwise. Neither do we confine ourselves to making the bridge which holds or guides either the short or the long cores with four arms only, since it might be made of various constructions, with one, two, or three or more arms or apertures; or it might be a circular plate with holes through it; or it might be constructed as a projection at or near the bottom of the cylinder, with one large aperture nearly surrounding it, and thus hold the core in a horizontal direction, if desired, so as to discharge the pipes laterally or otherwise, all which and other variations will readily suggest themselves to any practical engineer, without departing from the substantial originality of our invention, the remarkable feature of which is that soft metals, where in a set state, being yet under heat, can be made by extreme pressure to reunite perfectly around a core after a separation, and thus be formed into strong pipes or tubes.

The case was argued by *Mr. Gillett* and *Mr. Noyes*, with whom was *Mr. Barbour*, for the plaintiffs in error, and by *Mr. Cutting* and *Mr. Staples*, for the defendants in error.

The points made by the counsel for the plaintiffs in error were the following:

1. In construing a patent, and deciding what are the inventions patented thereby, the summing up is conclusive.

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Nothing is patented but what is expressly claimed. *Moody v. Fiske*, 2 Mason, 112, 118; *Rex v. Cutler*, 1 Starkie, 354 [1 Am. & Eng. 225]; *Davies on Patents*, 398, 404; *Bovill v. Moore*, 2 Marsh, 211 [1 Am. & Eng. 268]; *Wyeth v. Stone*, 1 Story, 285; *Hovey v. Stevens*, 3 W. & M. 17.

2. What is described in a patent, and not claimed, whether invented by the patentee or not, is dedicated to the public, and cannot be afterward claimed as a part of his patent, in a reissue, or otherwise. *Battin v. Taggart*, Judges Kane and Grier, September 10, 1851 [2 Wall. Jr. 101]; sixth section of act of 1836; *Mellus v. Silsbee*, 4 Mason, 111; *Grant v. Raymond*, 6 Pet. 218 [4 Am. & Eng. 245]; *Shaw v. Cooper*, 7 Pet. 292, 322, 323 [4 Am. & Eng. 286]; *Pennock v. Dialogue*, 2 Pet. 1, 16 [4 Am. & Eng. 217].

3. A patent void in part is void in whole, except when otherwise provided by statute. *Wyeth v. Stone*, 1 Story, 285, 273-294; *Moody v. Fiske*, 2 Mason, 118, 119; *Woodcock v. Parker*, 1 Gall. 438; *Evans v. Eaton*, 7 Wheat. 356, 5 Cond. R. 302, 314 [4 Am. & Eng. 105]; *Bovill v. Moore*, *Davies' Patents*, 398; *Id.*, 2 Marshall, 211 [1 Am. & Eng. 268]; *Hill v. Thompson*, 3 B. Moore, 244; *Brunton v. Hawks*, 4 B. & Ald. 541; *Saunders v. Aston*, 3 B. & Ald. 881 [1 Am. & Eng. 465]; *Kay v. Marshall*, 5 Bing. N. C. 492 [2 Am. & Eng. 416]; *Gibson v. Brand*, 4 M. & Gr. 178; *McFarlane v. Price*, 1 Starkie, 199 [1 Am. & Eng. 227]; *Minton v. Moore*, 1 Nev. & P. 595 [2 Am. & Eng. 460]; *Rex v. Cutler*, 1 Starkie, 359 [1 Am. & Eng. 225].

4. The judge was bound to present to the consideration of the jury, as a question of fact, in the words of the statute, whether the patentee, being an alien, "had failed and neglected, for the space of eighteen months from the date of the patent, to put and continue on sale to the public, on reasonable terms, the invention for which the patent issued." *Tatham et al. v. Loring*, decision by Judge Story on this patent, cited on brief.

5. It was error in the judge to instruct the jury that he had examined the surrendered and reissued patent, and found the improvement the same. He should have sub-

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mitted the question, as one of fact, to the jury, for them to determine upon the evidence, of the weight of which they were the exclusive judges. It was also error to instruct them that Bramah's and Tatham's patent were not identical. That was a question for the jury. *Curtis*, sec. 381; *Carver v. Braintree*, 2 Story, 432; *Stimpson v. West Chester Railroad Co.*, 4 Howard, 381 [4 Am. & Eng. 398].

6. The question, whether the combination had been previously patented, or described in a printed publication, was one of fact, which should have been submitted to the jury.

7. Applying an old machine to a new use, or to produce a new result, is not the subject of a lawful patent. *Boulton v. Bull*, 2 H. Bl. 487 [1 Am. & Eng. 59]; *Losh v. Hague*, Web. Pat. 207 [2 Am. & Eng. 501]; *Crane v. Price*, 4 Mann. & Grang. 580 [3 Am. & Eng. 437]; *Huddart v. Grimshaw*, Web. Pat. 8 [1 Am. & Eng. 128]; *Howe v. Abbott*, 2 Story, 190, 193; *Bean v. Smallwood*, 2 Story, 408, 410; *Hovey v. Stevens*, 1 Wood. & M. R. 290, 297, 298; *Kay v. Marshall*, 5 Bing. N. C. 492 [2 Am. & Eng. 416], (35 Com. L. R. 194, 197, 198;) *Gibson v. Brand*, 4 Mann. & Grang. 179, (43 Com. L. R. 100, 110;) *Hotchkiss v. Greenwood*, 11 Howard, 248, 266 [p. 240, *ante*]; *Curtis*, secs. 26, 27.

8. Making an addition to an old combination does not authorize a patent for the whole combination. Such a patent would be broader than the invention, and void.

Act of 1836, sec. 6; *Hindmarch* on Pat. 184, 190, and cases cited; *Basil v. Gibbs*, *Davies' Pat.* 398, 413; *Whittemore v. Cutler*, 1 Gall. 478; *Barrett v. Hall*, 1 Mason, 447, 474; *Moody v. Fiske*, 2 Mason, 117; *Prouty v. Draper*, 1 Story, 568; *Howe v. Abbott*, 2 Story, 190; *Brooks v. Jenkins*, 3 McLean, 433; *Evans v. Eaton*, 1 Pet. C. C. R. 322; *Curtis*, secs. 8-11; *Brooks v. Bicknell*, 4 McLean, 64, 73; *Root v. Ball*, 4 McLean, 177, 180; *Parker v. Haworth*, 4 McLean, 370, 373; *Prouty v. Ruggles*, 16 Pet. 336, 341 [4 Am. & Eng. 351]; *Evans v. Eaton*, 7 Wheat. 356, 5 Cond. R. 302, 314 [4 Am. & Eng. 105].

9. The plaintiffs, Henry B. and Benjamin Tatham, not being inventors, were not authorized to surrender the

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patent granted to them as assignees, and receive a reissued patent thereon. Patent Act of 1837, sec. 6.

10. The reissued patent is void, because issued to a party who was neither an original inventor nor his assignee. Act of 1837, sec. 6.

11. Neither a principle nor an effect can be patented, but a patent must be for a mode of embodying the former to produce the latter, invented by the patentee. *Kemper's* case, by Chief Justice Cranch, in *Curtis on Pat.* 500; *Wyeth v. Stone*, 1 Story, 285; *Hill v. Thompson*, 8 Taunton, 375 [1 Am. & Eng. 293]; S. C., 4 Com. L. R. 151; *Brunton v. Hawks*, 4 Barn. & Ald. 541 [1 Am. & Eng. 327]; S. C., 6 Com. L. R. 509; *Moody v. Fiske*, 2 Mason, 118; *Whittemore v. Cutler*, 1 Gall. 478, 480; *Stone v. Sprague*, 1 Story, 270, 272; *Blanchard v. Sprague*, 3 Sumner, 535, 540; S. C., 2 Story, 164, 194; *Howe v. Abbott*, 2 Story, 194; *Smith v. Downing*, decided in 1850 by Judge Woodbury [1 Fish. 64]; *Detmould v. Reeves*, Grier and Kane, Judges, 1851 [1 Fish. 127]; *Boulton v. Watt*, 2 H. Bl. 453; S. C., *Davies on Pat.* 162, 192.

The counsel for the defendants in error made the following points :

No exception was taken to the admission or exclusion of testimony, but solely to the judge's charge.

The invention for which the patent was granted consisted in the discovery, that, under certain conditions, and by the use and application of certain methods, lead and some of its alloys, while in a set state, could, after being separated into parts, be reunited and welded, and thus formed into pipe; and also of the mode of doing this; producing thereby a new article of manufacture, wrought lead pipe—avoiding the objections which had always prevented success in casting pipe; and by this discovery overcoming the defects of Burr's method, on which this was an improvement.

The patentees, in describing the invention, say that they "have found, from experience, that lead and some of its

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alloys, when recently become set, or in a condition just short of fluidity, being still under heat and extreme pressure, in a close vessel, will reunite perfectly after a separation of its parts," and that, therefore, they construct their machinery as follows,—and then proceed to describe the machinery or apparatus, as adapted by them to this discovery, and by which they produce the practical result above stated.

After describing the apparatus and the modes of using it, the patentees repeat, "that the remarkable feature of their invention is that soft metals, when in a set state, being yet under heat, can be made, by extreme pressure, to reunite perfectly, around a core, after a separation, and thus be formed into strong pipes or tubes."

And "that the essential difference in the character of this pipe, distinguishing it from all others before made, was that it was wrought under heat by pressure and constriction from set metal; and that it is not a casting formed in a mould."

And they close by claiming as their invention "the combination described by them, when used to form pipes of metal, under heat and pressure, in the manner set forth."

The judge, in his charge, in commenting on the patent, states the invention to be substantially as above stated; and to this construction and view of the patent no exception was taken by the defendants.

The court then proceed further to instruct the jury, and in answer to certain propositions submitted by the plaintiffs in error for the consideration of the court.

I. The first proposition laid down by the court, is that the mere combination of machinery not new, in the abstract, when combined with and applied to the practical development of a new principle, to produce a new and useful result, may be the subject of a valid patent. This principle is repeated several times, in different connections, in the course of the charge to the jury; and as often excepted to by the counsel for the defendants.

The counsel for the defendants in error insist that the

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above position is correct, and supported by principle, by precedent, and by practice.

1. The position is supported by principle, founded on the statutes giving patents to inventors. He who discovers a new principle, and points out the means of applying it, to produce a new and useful result, comes within the settled construction of the English act, giving a patent for the sole working of any manner of new manufactures. See sixth section of the act 21 James I., 1623. By our Patent Law, any person having invented or discovered any new manufacture, &c., is entitled to a patent. See sixth section of the act 4th July, 1836. The term new manufacture includes not only the thing produced, but the means of producing it.

2. This principle is supported by authority. Curtis on Pat., secs. 9, 71-91; also ch. 2, pp. 57-94, and cases there cited. Earl Dudley's patent for the use of pea or pit coal, in the manufacture of iron. [*Derosne v. Fairrie*] 1 Carpmael, 15; [*Dudley's Patent*] Webster's Patent Cases, 14, S. C.—Neilson's patent for the hot-air blast, in connection with common bituminous pit coal, in the manufacture of iron. [*Neilson v. Harford*] 8 Mees. & Welsb. 806-825; A. D. 1841; *Neilson v. Harford, &c.*, Web. Pat. Cas. 295, 328-373 [3 Am. & Eng. 231]; A. D. 1841; S. C., 374—Crane's patent for the hot-air blast, in connection with anthracite coal. Crane's patent, Web. Pat. Cas. 375; date 1836. *Crane v. Price, &c.*; Web. Pat. Cas. 377, 393; A. D. 1842, S. C., 4 Mann. & Grang. 380; S. C., 43 Eng. Com. L. R. 301; S. C., 2d vol. Frank. Journal for year 1851, p. 388 [3 Am. & Eng. 437]; French, &c., v. Rogers, &c., 394-397, and cases there cited by the court. [*Steiner v. Heald*] 6 Eng. Law and Equity Rep. 536, overruling 2 Carrington & Kirwan, cited v. Leon. 43, 47, 52; Curtis, 81 a.; Webster, 229, note.

II. The second exception by the defendants' counsel is to the charge of the court in relation to Mr. Keller's evidence.

It is difficult to see upon what ground this exception of the defendants to the charge of the court is founded. After

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remarking upon the character and weight of the fact testified to, the whole is submitted to the jury for their decision.

III. The third exception taken to the charge of the court is found in the next two paragraphs on the same page, and relates to the reissued patent. The same is repeated in the call of the defendants, in their eleventh proposition, upon which they ask the court to instruct the jury.

The substance of the charge, as given in both instances, is that the language in one patent was in some parts different from that in the other, but the meaning was substantially the same in both ; that the reissued patent must be for the same invention as the first ; and the matter of fact was left to the jury.

IV. The next exception is to the charge of the court as found at the top of the 42d page of the case, and is as follows :

“ That in the patents referred to, from the year 1797 to 1832, the combination which was claimed to be identical was confessedly used for making pipe, by casting with fluid lead in a mould, and after it was set by the application of water, forcing it out.

“ And the question is, whether any of these inventions are substantially the same as the plaintiffs’,—whether, even if by these modes pipe had been successfully made for common use, it would have been made in the same manner as the Hansons’,—to which opinion the counsel for the defendants excepted.”

Whether the modes referred to by the court, of manufacturing pipe, were the same or different, was a question of fact left to the jury ; and the court did not, by the manner of stating the point, withdraw it from the consideration of the jury.

V. The fifth exception relates to the charge of the court as to the duty of the plaintiffs to put and keep the invention on sale on reasonable terms, and they say that it was not essential that the patentees should take active means for the purpose of putting their invention in market, and forcing a sale ; but that they should, at all times, be

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ready to sell at a fair price, when a reasonable offer was made.

That it was for the jury to say whether it was put and continued on sale, under this view of the law,—to which the counsel for the defendants excepted.

We insist that the court took a correct view of the statute, and properly submitted the question of fact to the jury; and that the exception is not well taken.

VI. The next exception, in the order in which the defendants in error have noticed them, relates to the instructions of the court, in relation to the liability of Le Roy and Smith jointly, with the other defendant, Lowber.

It seems, to the counsel for the defendants in error, that the question was properly submitted to the jury, as a question of fact, how far Le Roy and Smith had made themselves liable with Lowber. The defendants in error insist that the exception to this part of the charge is not well taken.

VII. In answer to the fourth proposition, on which the court was requested to instruct the jury, that Tatham's patent was void on its face, &c., we say that the charge of the court was correct. The patentees in Tatham's patent have pointed out clearly what they claim, and what they do not claim.

VIII. In their ninth proposition, the defendants requested the court to instruct the jury—

“That if they believed the same combination of cylinder, piston, bridge, short core, die, and chamber, under heat and pressure, had before been patented in England by Bramah, and published in a well-known work, then the plaintiffs cannot recover.”

Upon this proposition the court instructed the jury, that Bramah's patent and the Tathams' were not identical; and declined to instruct the jury as requested,—to which the counsel for the defendants excepted. This request by the defendants for the above instruction was based on the assumption of a fact not proved and not true, and was correctly refused.

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IX. The defendants requested the court to instruct the jury according to their tenth proposition, which is as follows : "That if the jury believe that the Burr, Bramah, Titus, and Hague machines, or either of them, were published to the world in well-known public works, and had the same combination, in whole or in part, as the Hanson machine, up to a certain point, the Tathams' patent is void for claiming too much, viz., the whole combination ; and the court thereupon instructed the jury, that they had explained their views on that part of the case, and declined to instruct them as requested in the form in which the proposition was stated." To which the counsel for the defendants excepted, and the defendants in error insist that this exception is not well taken.

X. The sixteenth proposition, on which the court was requested to instruct the jury, is in the following words, namely :

"That the jury are the sole and exclusive judges as to the questions of fact, whether the combination and process were the same in the plaintiffs' machine as was Bramah's, or in any other of the machines proved on the trial. And thereupon the court instructed the jury, that this was so, undoubtedly ; subject, however, to the principles of law as laid down in the preceding charge and instructions." To which the counsel for the defendants excepted.

The defendants in error insist that none of the exceptions aforesaid are well taken ; and that said judgment should be affirmed with costs and damages.

Mr. Justice McLEAN delivered the opinion of the court.

This is a case on error from the Circuit Court of the Southern District of New York.

The action was brought in the Circuit Court, to recover damages for an alleged infringement of a patent for new and useful improvements in machinery for making pipes and tubes from metallic substances.

The declaration alleged that John and Charles Hanson, of England, were the inventors of the improvements specified,

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on or prior to the 31st of August, 1837; that on the 10th of January, 1840, the Hansons assigned to H. B. & B. Tatham, two of the defendants in error, the full and exclusive right to said improvement; that on the 29th of March, 1841, letters patent were granted for the improvements to the Tathams, as the assignees of the Hansons; that afterward, H. B. & B. Tatham assigned to G. N. Tatham, the remaining defendant in error, an undivided third part of the patent.

On the 14th of March, 1846, the said letters patent were surrendered, on the ground that the specifications of the improvements claimed were defective, and a new patent was issued, which granted to the patentees, their heirs, &c., for the term of fourteen years from the 31st of August, 1837, the exclusive right to make and vend the improvements secured. The declaration states the patent was of the value of fifty thousand dollars; and that the defendants below had made and vended lead pipe to the amount of two thousand tons, in violation of the patent, and to the injury of the plaintiffs twenty thousand dollars.

The defendants pleaded not guilty; the defendant Lowber did not join in the plea, but permitted judgment to be entered against him by default. On the trial, certain bills of exceptions were taken to the instructions of the court to the jury, on which errors are assigned.

The schedule, which is annexed to the patent, and forms a part of it, states that the invention consists "in certain improvements upon, and additions to, the machinery used for manufacturing pipes and tubes from lead or tin, or an alloy of soft metals capable of being forced, by great pressure, from out of a receiver, through or between apertures, dies, and cores, when in a set or solid state, set forth in the specification of a patent granted to Thomas Burr, of Shrewsbury, in Shropshire, England, dated the 11th of April, 1820." After describing Burr's machine, its defects, and the improvements made on it as claimed, the patentees say: "Pipes thus made are found to possess great solidity and unusual strength, and a fine uniformity of thickness

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and accuracy of bore is arrived at, such as, it is believed, has never before been attained by any other machinery."

"The essential difference in the character of this pipe, which distinguishes it, as well as that contemplated by Thomas Burr, from all other heretofore known or attempted, is that it is wrought under heat, by pressure and constriction, from set metal; and that it is not a casting formed in a mould."

And they declare: "We do not claim as our invention and improvement any of the parts of the above-described machinery, independently of its arrangement and combination above set forth. What we do claim as our invention, and desire to secure, is the combination of the following parts above described, to wit, the core and bridge, or guide-piece, with the cylinder, the piston, the chamber, and the die, when used to form pipes of metal, under heat and pressure, in the manner set forth, or in any other manner substantially the same."

"The plaintiffs gave in evidence certain agreements between the defendants, showing the manufacture of lead pipe by the defendant Lowber, for the defendants Le Roy and Smith. And also evidence tending to prove that the said John Hanson and Charles Hanson were the original and first inventors of the improvement described in the said letters patent; that the invention and discovery therein described was new and useful; that the lead pipe manufactured thereby was superior in quality and strength, capable of resisting much greater pressure, and more free from defects than any pipe before made; that in all the modes of making lead pipe, previously known and in use, it could be made only in short pieces, but that by this improved mode it could be made of any required length, and also of any required size; and that the introduction of lead pipe, made in the mode described, had superseded the use of that made by any of the modes before in use, and that it was also furnished at a less price."

"And the plaintiffs also gave evidence tending to prove that lead, when recently become set, and while under heat

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and extreme pressure in a close vessel, would reunite perfectly, after a separation of its parts ; and that in the process described in the said patent, lead pipe was manufactured by being thus separated and reunited ; and that the said John and Charles Hanson were the first and original discoverers thereof ; and that such discovery, and its reduction to a practical result in the mode described in said letters patent, was useful and important."

"And the plaintiffs also gave evidence conducing to prove that the improvement described in the letters patent was the same invention and discovery which had been made by the said John and Charles Hanson, and for which letters patent had been granted to them in England, and subsequently in this country to the Tathams, as recited in the letters patent."

"And the plaintiffs also gave evidence conducing to prove that they had been ready and willing, and had offered, to sell the said invention, within eighteen months succeeding the issuing of said letters patent to them, and also since ; and had, within the said eighteen months, sold the same for a large portion of the United States."

The defendants' counsel then read in evidence, from the "Repertory of Arts," vol. 16, page 344, the description of the patent to the Hansons, dated August 31, 1837. They also read in evidence the patent issued upon the application of the plaintiffs to the Patent Office, containing another specification, which was annexed to the patent surrendered. And they also read the specification of Thomas Burr's patent, of April 11, 1820 ; also a patent granted to George W. Potter, described in the twelfth "Franklin Journal of Arts," published in 1833 ; they also read the specification of a patent granted, in England, to Bush & Harvey, on December 5, 1817 ; and also the specification of a patent granted, in England, to Joseph Bramah, October 31, 1797.

Evidence was also given to show that the combination of machinery for making lead pipe, described in public works as having been invented by Burroughs Titus, by George W.

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Potter, by Jesse Fox, by John Hague, and by Joseph Bramah, were substantially the same as that used by the plaintiffs; that the combination of machinery patented, as hereinbefore stated, by Bush & Harvey, for making pipes of clay, and that used for making macaroni, were substantially the same as that described in the plaintiffs' patent.

In their charge to the jury, the court said: "They, the plaintiffs, also state that they do not claim any of the parts of the machinery, the cylinder, core, die, or bridge, but that they claimed the combination when used to form pipes of metal, under heat and pressure, in the way they have described. There can be no doubt that if this combination is new, and produces a new and useful result, it is the proper subject of a patent." "The result is a new manufacture. And even if the mere combination of machinery in the abstract is not new, still, if used and applied in connection with the practical development of a principle newly discovered, producing a new and useful result, the subject is patentable. In this view, the improvement of the plaintiffs is the application of a combination of machinery to a new end,—to the development and application of a new principle, resulting in a new and useful manufacture. That the discovery of a new principle is not patentable, but it must be embodied and brought into operation by machinery, so as to produce a new and an useful result. Upon this view of the patent, it is an important question for the jury to determine, from the evidence, whether the fact is established, on which the alleged improvement is founded, that lead in a set or semi-solid state can thus be reunited or welded, after separation." To this instruction the defendants excepted.

It was also objected, that the plaintiffs' patent was invalid for want of originality; that the invention had been before described in public works; and Bramah, Hague, Titus, Fox, and Potter were relied on by the defendants.

To this it was replied, by the court: "That in the view taken by the court in the construction of the patent, it was not material whether the mere combinations of machinery

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referred to were similar to the combination used by the Hansons, because the originality did not consist in the novelty of the machinery, but in bringing a newly discovered principle into practical application, by which a useful article of manufacture is produced, and wrought pipe made as distinguished from cast pipe." To this charge there was also an exception.

The word *principle* is used by elementary writers on patent subjects, and sometimes in adjudications of courts, with such a want of precision in its application as to mislead. It is admitted, that a principle is not patentable. A principle, in the abstract, is a fundamental truth; an original cause; a motive. These cannot be patented, as no one can claim in either of them an exclusive right. Nor can an exclusive right exist to a new power, should one be discovered in addition to those already known. Through the agency of machinery, a new steam-power may be said to have been generated. But no one can appropriate this power exclusively to himself, under the Patent Laws. The same may be said of electricity, and of any other power in nature, which is alike open to all, and may be applied to useful purposes by the use of machinery.

In all such cases, the processes used to extract, modify, and concentrate natural agencies, constitute the invention. The elements of the power exist; the invention is not in discovering them, but in applying them to useful objects. Whether the machinery used be novel, or consist of a new combination of parts known, the right of the inventor is secured against all who use the same mechanical power, or one that shall be substantially the same.

A patent is not good for an effect, or the result of a certain process, as that would prohibit all other persons from making the same thing by any means whatsoever. This, by creating monopolies, would discourage arts and manufactures, against the avowed policy of the Patent Laws.

A new property discovered in matter, when practically applied in the construction of a useful article of commerce or manufacture, is patentable; but the process through

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which the new property is developed and applied, must be stated with such precision as to enable an ordinary mechanic to construct and apply the necessary process. This is required by the Patent Laws of England and of the United States, in order that when the patent shall run out the public may know how to profit by the invention. It is said, in the case of the Househill Company v. Neilson, Webster's Patent Cases, 683: "A patent will be good, though the subject of the patent consists in the discovery of a great, general, and most comprehensive principle in science or law of nature, if that principle is by the specification applied to any special purpose, so as thereby to effectuate a practical result and benefit not previously attained." In that case, Mr. Justice CLERK, in his charge to the jury, said: "The specification does not claim anything as to the form, nature, shape, materials, numbers, or mathematical character of the vessel or vessels in which the air is to be heated, or as to the mode of heating such vessels," &c. The patent was for "the improved application of air to produce heat in fires, forges, and furnaces, where bellows or other blowing apparatus are required."

In that case, although the machinery was not claimed as a part of the invention, the jury were instructed to inquire "whether the specification was not such as to enable workmen of ordinary skill to make machinery or apparatus capable of producing the effect set forth in said letters patent and specification;" and that, in order to ascertain whether the defendants had infringed the patent, the jury should inquire whether they "did, by themselves or others, and in contravention of the privileges conferred by the said letters patent, use machinery or apparatus substantially the same with the machinery or apparatus described in the plaintiffs' specification, and to the effect set forth in said letters patent and specification." So it would seem that where a patent is obtained, without a claim to the invention of the machinery, through which a valuable result is produced, a precise specification is required; and the test of infringement is whether the defendants have used

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substantially the same process to produce the same result.

In the case before us, the court instructed the jury, that the invention did not consist "in the novelty of the machinery, but in bringing a newly-discovered principle into practical application, by which a useful article of manufacture is produced, and wrought pipe made as distinguished from cast pipe."

A patent for leaden pipes would not be good, as it would be for an effect, and would, consequently, prohibit all other persons from using the same article, however manufactured. Leaden pipes are the same, the metal being in no respect different. Any difference in form and strength must arise from the mode of manufacturing the pipes. The new property in the metal claimed to have been discovered by the patentees, belongs to the process of manufacture, and not to the thing made.

But we must look to the claim of the invention stated in their application by the patentees. They say: "We do not claim as our invention and improvement any of the parts of the above-described machinery, independently of their arrangement and combination above set forth." "What we claim as our invention, and desire to secure by letters patent, is the combination of the following parts above described, to wit, the core and bridge, or guide-piece, the chamber, and the die, when used to form pipes of metal, under heat and pressure, in the manner set forth, or in any other manner substantially the same."

The patentees have founded their claim on this specification, and they can neither modify nor abandon it, in whole or in part. The combination of the machinery is claimed, through which the new property of lead was developed, as a part of the process in the structure of the pipes. But the jury were instructed, "that the originality of the invention did not consist in the novelty of the machinery, but in bringing a newly-discovered principle into practical application." The patentees claimed the combination of the machinery as their invention in part, and no such claim can

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be sustained without establishing its novelty—not as to the parts of which it is composed, but as to the combination. The question whether the newly-developed property of lead, used in the formation of pipes, might have been patented, if claimed as developed, without the invention of machinery, was not in the case.

In the case of *Bean v. Smallwood*, 2 Story, 408, Mr. Justice STORY said: “He (the patentee) says that the same apparatus stated in this last claim has been long in use, and applied, if not to chairs, at least in other machines to purposes of a similar nature. If this be so, then the invention is not new, but at most is an old invention, or apparatus, or machinery applied to a new purpose. Now, I take it to be clear, that a machine, or apparatus, or other mechanical contrivance, in order to give the party a claim to a patent therefor, must in itself be substantially new. If it is old and well known, and applied only to a new purpose, that does not make it patentable.”

We think there was error in the above instruction, that the novelty of the combination of the machinery, specifically claimed by the patentees as their invention, was not a material fact for the jury, and that on that ground the judgment must be reversed. The other rulings of the court excepted to, we shall not examine, as they are substantially correct.

Mr. Justice NELSON, Mr. Justice WAYNE, and Mr. Justice GRIER dissented.

Mr. Justice NELSON, dissenting.

The patent in this case, according to the general description given by the patentees, is for improvements upon, and additions to, the machinery or apparatus of Thomas Burr, for manufacturing pipes and tubes from metallic substances. They declare that the nature of their invention, and the manner in which the same is to operate, are particularly described and set forth in their specification. In that, they refer to the patent of Burr of the 11th of April, 1820, for making lead pipe out of set or solid lead, by means of great

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pressure, the product being wrought pipe, as contradistinguished from cast, or pipe made according to the draw-bench system. The apparatus, as described by Burr, consisted of a strong iron cylinder, bored sufficiently true for a piston to traverse easily within it. This cylinder was closed at one end by the piston, and also closed at the other, except a small aperture for the die, which formed the external diameter of the pipe. The core or mandril, which determined the inner diameter, was a long cylindrical rod of steel, one end of which was attached to the face of the piston, extending through the centre of the cylinder, and passing also through the centre of the die at the opposite end, leaving a space around the core, and between it and the die, for the formation of the pipe. The metal to form the pipe was admitted into the cylinder in a fluid state, and when it became set or solid, the power of a hydraulic press was applied to the head of the piston, which, moving against the body of solid lead in the cylinder, drove it through the die, the long core advancing with the piston and with the body of lead through the die, and thus forming the pipe. The cylinder usually holds from three to four hundred pounds of lead, and continuous pipe is made till the whole charge is driven out.

This plan, though one of deserved merit, and of great originality, failed, when reduced to practice, except for the purpose of making very large pipe, larger than that usually in demand, and consequently passed out of general use. The long core attached to the face of the piston, advancing with it in the solid lead under the great pressure required, was liable to warp and twist out of a straight line, and out of centre in the die, which had the effect to destroy the uniformity of the thickness and centrality of the bore of the pipe.

The old mode, therefore, of making pipe, by the draw-bench system, continued down to 1837, when the patentees in this case discovered, by experiment, that lead, when recently set and solid, but still under heat and extreme pressure, in a close vessel, would reunite after a separation

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of its parts, and "heal" (in the language of the patentees) "as it were by the first intention," as completely as though it had not been divided.

Upon the discovery of this property of lead, which had never before been known, but, on the contrary, had been supposed and believed, by all men of science skilled in metals, to be impossible, the patentees made an alteration in the apparatus of Burr, founded upon this new property discovered in the metal, and succeeded completely in making wrought pipe out of solid lead by means of the hydraulic pressure. The product was so much superior in quality to that made according to the old mode, that it immediately wholly superseded it in the market. The pipe was also made much cheaper.

The patentees, by their discovery, were enabled to dispense with the long core of Burr, and to fix firmly a bridge or cross-bars at the end of the cylinder near the die, to which bridge they fastened a short core, extending into and through the die. By this arrangement they obtained a firm, immovable core, that always preserved its centrality with the die, and secured the manufacture of pipe, of uniformity of thickness of wall and accuracy of bore, of any dimension. The lead, after being admitted into the cylinder in a fluid state, was allowed to remain till it became solid, and was then driven by the piston through the apertures in the bridge into the chamber between it and the die, where the parts reunited after the separation as completely as before, and, passing out at the die around the fixed short core, formed perfect pipe.

The patentees state that they do not intend to confine themselves to the arrangement of the apparatus thus particularly specified, and point out several other modes by which the same result may be produced, all of which variations would readily suggest themselves, as they observe, to any practical engineer, without departing from the substantial originality of the invention, the remarkable feature of which, they say, is that lead, when in a set state, being yet under heat, can be made, by extreme press-

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ure, to reunite perfectly around a core after separation, and thus be formed into strong pipes or tubes. Pipes thus made are found to possess great solidity and unusual strength, and a fine uniformity, such as had never before been attained by any other mode. The essential difference in its character, and which distinguishes it from all other theretofore known, they add, is that it is wrought under heat, by pressure and constriction, from set or solid metal.

They do not claim as their invention or improvement any of the parts of the machinery, independently of the arrangement and combination set forth.

"What we claim as our invention," they say, "is the combination of the following parts above described, to wit, the core and bridge, or guide-piece, with the cylinder, the piston, the chamber, and die, when used to form pipes of metal, under heat and pressure, in the manner set forth, or in any other manner substantially the same."

It is supposed that the patentees claim, as the novelty of their invention, the arrangement and combination of the machinery which they have described, disconnected from the employment of the new property of lead, which they have discovered, and by the practical application and use of which they have succeeded in producing the new manufacture. And the general title or description of their invention, given in the body of their letters patent, is referred to as evidence of such claim. But every patent, whatever may be the general heading or title by which the invention is designated, refers to the specification annexed for a more particular description; and hence this court has heretofore determined, that the specification constitutes a part of the patent, and that they must be construed together when seeking to ascertain the discovery claimed. *Hogg v. Emerson*, 6 How. 437 [p. 1, *ante*].

The same rule of construction was applied by the Court of Exchequer, in England, in the case of Neilson's patent for the hot-air blast. *Webster's P. C.* 373.

Now, on looking into the specification, we see that the leading feature of the invention consists in the discovery of

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a new property in the article of lead, and in the employment and adaptation of it, by means of the machinery described, to the production of a new article, wrought pipe, never before successfully made. Without the discovery of this new property in the metal, the machinery or apparatus would be useless, and not the subject of a patent. It is in connection with this property, and the embodiment and adaptation of it to practical use, that the machinery is described, and the arrangement claimed. The discovery of this new element or property led naturally to the apparatus by which a new and most useful result is produced. The apparatus was but incidental, and subsidiary to the new and leading idea of the invention. And hence the patentees set forth, as the leading feature of it, the discovery that lead in a solid state, but under heat and extreme pressure, in a close vessel, will reunite, after separation of its parts, as completely as though it had never been separated. It required very little ingenuity, after the experiments in a close vessel by which this new property of the metal was first developed, to construct the necessary machinery for the formation of the pipe. The apparatus essential to develop this property would at once suggest the material parts, especially in the state of the art at the time. Any skilful mechanic, with Burr's machine before him, would readily construct the requisite machinery.

The patentees, therefore, after describing their discovery of this property of lead, and the apparatus by means of which they apply the metal to the manufacture of pipe, claim the combination of the machinery, only when used to form pipes under heat and pressure, in the manner set forth, or in any other manner substantially the same. They do not claim it as new separately, or when used for any other purpose, or in any other way,—but claim it, only when applied for the purpose and in the way pointed out in the specification. The combination, as machinery, may be old; may have been long used; of itself, what no one could claim as his invention, and may not be the subject of a patent. What is claimed, is that it never had been before

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applied or used, in the way and for the purpose they have used and applied it, namely, in the embodiment and adaptation of a newly-discovered property in lead, by means of which they are enabled to produce a new manufacture, wrought pipe, out of a mass of solid lead. Burr had attempted it, but failed. These patentees, after the lapse of seventeen years, having discovered this new property in the metal, succeeded, by the use and employment of it; and since then, none other than wrought lead pipe, made out of solid lead, has been found in the market, having superseded, on account of its superior quality and cheapness, all other modes of manufacture.

Now, the construction which I understand a majority of my brethren are inclined to give to this patent, namely, that the patentees claim, as the originality of their invention, simply the combination of the machinery employed, with great deference, seems to me contrary to the fair and reasonable import of the language of the specification, and also of the summary of the claim. The tendency of modern decisions is to construe specifications benignly, and to look through mere forms of expression, often inartificially used, to the substance, and to maintain the right of the patentee to the thing really invented, if ascertainable upon a liberal consideration of the language of the specification, when taken together. For this purpose, phrases standing alone are not to be singled out, but the whole are to be taken in connection. [Ames v. Howard] 1 Sumn. 482-485.

Baron Parke observed, in delivering the opinion of the court in Neilson's patent: "That, half a century ago, or even less, within fifteen or twenty years, there seems to have been very much a practice with both judges and juries to destroy the patent-right, even of beneficial patents, by exercising great astuteness in taking objections, either as to the title of the patent, but more particularly as to the specifications, and many valuable patent-rights have been destroyed in consequence of the objections so taken. Within the last ten years, or more, the courts have not been so strict in taking objections to the specifications, and they

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have endeavored to hold a fair hand between the patentee and the public, willing to give the patentee the reward of his patent."

Construing the patent before us in this spirit, I cannot but think that the thing really discovered, and intended to be described and claimed by these patentees, cannot well be mistaken. That they did not suppose the novelty of their invention consisted simply in the arrangement of the machinery described, is manifest. They state distinctly that the leading feature of their discovery consisted of this new property of lead, and some of its alloys,—this, they say, is the remarkable feature of their invention,—and the apparatus described is regarded by them as subordinate, and as important only as enabling them to give practical effect to this newly-discovered property, by means of which they produce the new manufacture. If they have failed to describe and claim this as belonging to their invention, it is manifest, upon the face of their specification, that they have failed to employ the proper words to describe and claim what they intended; and that the very case is presented in which, if the court, in the language of Baron Parke, will endeavor to hold a fair hand between the patentee and the public, it will look through the forms of expression used, and discover, if it can, the thing really invented. Apply to the specification this rule of construction, and all difficulty at once disappears. The thing invented, and intended to be claimed, is too apparent to be mistaken.

The patentees have certainly been unfortunate in the language of the specification, if, upon a fair and liberal interpretation, they have claimed only the simple apparatus employed; when they have not only set forth the discovery of this property in the metal as the great feature in their invention, but, as is manifest, without it the apparatus would have been useless. Strike out this new property from their description and from their claim, and nothing valuable is left. All the rest would be worthless. This lies at the foundation upon which the great merit of the

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invention rests, and without a knowledge of which the new manufacture could not have been produced ; and, for aught we know, the world would have been deprived of it down to this day.

If the patentees had claimed the combination of the core and bridge, or guide-piece, with the cylinder, the chambers, and the die, and stopped there, I admit the construction now adopted by a majority of my brethren could not be denied ; although even then it would be obvious, from an examination of the specification as a whole, that the draughtsman had mistaken the thing really invented, and substituted in its place matters simply incidental, and of comparative insignificance. But the language of the claim does not stop here. The combination of these parts is claimed only when used to form pipes of lead, under heat and pressure, in the manner set forth,—that is, when used for the embodiment and adaptation of this new property in the metal for making wrought pipe out of a solid mass of lead. This guarded limitation of the use excludes the idea of a claim to the combination for any other, and ties it down to the instance when the use incorporates within it the new idea or element which gives to it its value, and by means of which the new manufacture is produced. How, then, can it be consistently held that here is a simple claim to the machinery, and nothing more, when a reasonable interpretation of the words not only necessarily excludes any such claim, but in express terms sets forth a different one,—one not only different in the conception of the invention, but different in the practical working of the apparatus, to accomplish the purpose intended ?

I conclude, therefore, that the claim, in this case, is not simply for the apparatus employed by the patentees, but for the embodiment or employment of the newly-discovered property in the metal, and the practical adaptation of it, by these means, to the production of a new result, namely, the manufacture of wrought pipe out of solid lead.

Then, is this the proper subject-matter of a patent ?

This question was first largely discussed by counsel and

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court in the celebrated case of *Boulton v. Bull*, (2 Hen. Black. 31, 463,) [1 Am. & Eng. 59] involving the validity of Watt's patent, which was for "a new invented method for lessening the consumption of fuel and steam in fire-engines." This was effected by inclosing the steam-vessel or cylinder with wood, or other material, which preserved the heat in the steam-vessel; and by condensing the steam in separate vessels. It was admitted, on the argument, that there was no new mechanical construction invented by Watt, and the validity of the patent was placed on the ground that it was for well-known principles, practically applied, producing a new and useful result. On the other hand, it was conceded that the application of the principles in the manner described was new, and produced the result claimed; but it was denied that this constituted the subject-matter of a patent. Justices Heath and Buller agreed with the counsel for the defendant. But Lord Chief Justice Eyre laid down the true doctrine, and which, I think, will be seen to be the admitted doctrine of the courts of England at this day. "Undoubtedly," he observed, "there can be no patent for a mere principle; but for a principle so far embodied and connected with corporeal substances as to be in a condition to act, and to produce effects in any art, trade, mystery, or manual occupation, I think there may be a patent. Now, this," he continues, "is, in my judgment, the thing for which the patent stated in the case was granted; and this is what the specification describes, though it miscalls it a principle. It is not that the patentee conceived an abstract notion that the consumption of steam in fire-engines may be lessened, but he has discovered a practical manner of doing it; and for that practical manner of doing it he has taken this patent. Surely," he observes, "this is a very different thing from taking a patent for a principle. The apparatus, as we have said, was not new. There is no new mechanical construction, said the counsel for the patentee, invented by Watt, capable of being the subject of a distinct specification; but his discovery was of a principle, the method of applying which is clearly set forth." Chief

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Justice Eyre admitted that the means used were not new, and that if the patent had been taken out for the mechanism used, it must fail.

He observed: "When the effect produced is some new substance or composition of things, it should seem that the privilege of the sole working or making ought to be for such new substances or composition, without regard to the mechanism or process by which it has been produced, which, though perhaps also new, will be only useful as producing the new substance." Again: "When the effect produced is no new substance or composition of things, the patent can only be for the mechanism, if new mechanism is used; or for the process, if it be a new method of operating, with or without old mechanism, by which the effect is produced." And again he observes: "If we wanted an illustration of the possible merit of a new method of operating with old machinery, we might look to the identical case before the court." Pages 493, 495, 496.

This doctrine, in expounding the law of patents, was announced in 1795, and the subsequent adoption of it by the English courts shows that Chief Justice Eyre was considerably in advance of his associates upon this branch of the law. He had got rid, at an early day, of the prejudice against patents so feelingly referred to by Baron Parke in *Neilson v. Harford* [3 Am. & Eng. 231], and comprehended the great advantages to his country if properly encouraged. He observed, in another part of his opinion, that "the advantages to the public from improvements of this kind are beyond all calculation important to a commercial country; and the ingenuity of artists who turn their thoughts toward such improvements is, in itself, deserving of encouragement."

This doctrine was recognized by the Court of King's Bench in *The King v. Wheeler*, 2 B. & Ald. 340, 350 [1 Am. & Eng. 317].

It is there observed, that the word "manufactures," in the Patent Act, may be extended to a mere process to be carried on by known implements or elements acting upon

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known substances, and ultimately producing some other known substance, but producing it in a cheaper or more expeditious manner, or of a better or more useful kind.

Now, if this process to be carried on by known implements acting upon known substances, and ultimately producing some other known substance of a better kind, is patentable, *a fortiori* will it be patentable, if it ultimately produces not some other known substance, but an entirely new and useful substance.

In Forsyth's patent, which consists of the application and use of detonating powder as priming for the discharge of fire-arms, it was held, that whatever might be the construction of the lock or contrivance by which the powder was to be discharged, the use of the detonating mixture as priming, which article of itself was not new, was an infringement. [Huddart v. Grimshaw] Webster's P. C. 94 [1 Am. & Eng. 128], [Forsyth's Patent, *ibid.*] 97, note [1 Am. & Eng. 325]; Curtis on Pat. 230.

This case is founded upon a doctrine which has been recognized in several subsequent cases in England, namely, that where a person discovers a principle or property of nature, or where he conceives of a new application of a well-known principle or property of nature, and also of some mode of carrying it out into practice, so as to produce or attain a new and useful effect or result, he is entitled to protection against all other modes of carrying the same principle or property into practice for obtaining the same effect or result.

The novelty of the conception consists in the discovery and application in the one case, and of the application in the other, by which a new product in the arts or manufactures is the effect; and the question, in case of an infringement, is as to the substantial identity of the principle or property, and of the application of the same, and consequently the means or machinery made use of, material only so far as they affect the identity of the application.

In the case of Jupe's patent for "an improved expanding table," Baron Alderson observed, speaking of this doc-

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trine : " You cannot take out a patent for a principle ; you may take out a patent for a principle coupled with the mode of carrying the principle into effect. But then you must start with having invented some mode of carrying the principle into effect. If you have done that, then you are entitled to protect yourself from all other modes of carrying the same principle into effect, that being treated by the jury as piracy of your original invention." [Jupe v. Pratt] Webster's P. C. 147 [2 Am. & Eng. 464]. The same doctrine was maintained also in the case of Neilson's patent for the hot-air blast, in the King's Bench and Exchequer, in England. [Neilson v. Harford] Webster's P. C. 310, 342, 371 [3 Am. & Eng. 231] ; Curtis on Pat., secs. 74, 148, 232.

This patent came also before the Court of Sessions in Scotland ; and in submitting the case to the jury, the lord justice remarked : " That the main merit, the most important part of the invention, may consist in the conception of the original idea—in the discovery of the principle in science, or of the law of nature, stated in the patent ; and little or no pains may have been taken in working out the best mode of the application of the principle to the purpose set forth in the patent. But still, if the principle is stated to be applicable to any special purpose, so as to produce any result previously unknown, in the way and for the objects described, the patent is good. It is no longer an abstract principle. It becomes to be a principle turned to account, to a practical object, and applied to a special result. It becomes, then, not an abstract principle, which means a principle considered apart from any special purpose or practical operation, but the discovery and statement of a principle for a special purpose, that is, a practical invention, a mode of carrying a principle into effect. That such is the law," he observes, " if a well-known principle is applied for the first time to produce a practical result for a special purpose, has never been disputed ; and it would be very strange and unjust to refuse the same legal effect, when the inventor has the additional merit of discovering the principle, as well as its application to a practical object."

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Then he observes again : “ Is it an objection to the patent, that in its application of a new principle to a certain specified result, it includes every variety of mode of applying the principle, according to the general statement of the object and benefit to be attained ? This,” he observes, “ is a question of law ; and I must tell you distinctly that this generality of claim, that is, for all modes of applying the principle to the purpose specified, according to or within a general statement of the object to be attained, and of the use to be made of the agent to be so applied, is no objection to the patent. The application or use of the agent for the purpose specified may be carried out in a great variety of ways, and only shows the beauty, and simplicity, and comprehensiveness of the invention.”

This case was carried up to the House of Lords on exceptions to the charge, and among others to this part of it, which was the sixth exception, and is as follows : “ In so far as he (the judge) did not direct the jury, that, on the construction of the patent and specification, the patentee cannot claim or maintain that his patent is one which applies to all the varieties in the apparatus which may be employed in heating air while under blast, but was limited to the particular described in the specification.” And although the judgment of the court was reversed in the House of Lords on the eleventh exception, it was expressly affirmed as respects this one. Lord Campbell at first doubted, but after the decision of the courts in England on this patent, he admitted the instruction was right. [Househill Co. *v.* Neilson] Webster’s P. C. 683, 684, 698, 717.

I shall not pursue a reference to the authorities on this subject any further. The settled doctrine to be deduced from them, I think, is that a person having discovered the application for the first time of a well-known law of nature, or well-known property of matter, by means of which a new result in the arts or in manufactures is produced, and has pointed out a mode by which it is produced, is entitled to a patent ; and, if he has not tied himself down in the specification to the particular mode described, he is entitled

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to be protected against all modes by which the same result is produced, by an application of the same law of nature or property of matter. And *a fortiori*, if he has discovered the law of nature or property of matter, and applied it, is he entitled to the patent and aforesaid protection.

And why should not this be the law? The original conception, the novel idea, in the one case, is the new application of the principle or property of matter, and the new product in the arts or manufactures; in the other, in the discovery of the principle or property, and application, with like result. The mode or means are but incidental, and flowing naturally from the original conception; and hence of inconsiderable merit. But, it is said, this is patenting a principle, or element of nature. The authorities to which I have referred answer the objection. It was answered by Chief Justice Eyre, in the case of Watt's patent, in 1795, fifty-seven years ago; and more recently in still more explicit and authoritative terms. And what if the principle is incorporated in the invention, and the inventor protected in the enjoyment for the fourteen years. He is protected only in the enjoyment of the application for the special purpose and object to which it has been newly applied by his genius and skill. For every other purpose and end, the principle is free for all mankind to use. And where it has been discovered as well as applied to this one purpose, and opened to the world as to every other, the ground of complaint is certainly not very obvious. Undoubtedly, within the range of the purpose and object for which the principle has been for the first time applied, piracies are interfered with during the fourteen years; but anybody may take it up and give to it any other application, to the enlargement of the arts and of manufactures, without restriction. He is only debarred from the use of the new application for the limited time, which the genius of others has already invented and put into successful practice. The protection does not go beyond the thing which, for the first time, has been discovered and brought into practical use; and is

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no broader than that extended to every other discoverer or inventor of a new art or manufacture.

I own, I am incapable of comprehending the detriment to the improvements in the country that may flow from this sort of protection to inventors.

To hold, in the case of inventions of this character, that the novelty must consist of the mode or means of the new application producing the new result, would be holding against the facts of the case, as no one can but see that the original conception reaches far beyond these. It would be mistaking the skill of the mechanic for the genius of the inventor.

Upon this doctrine, some of the most brilliant and useful inventions of the day, by men justly regarded as public benefactors, and whose names reflect honor upon their country,—the successful application of steam-power to the propulsion of vessels and railroad cars; the application of the electric current for the instant communication of intelligence from one extremity of the country to the other; and the more recent but equally brilliant conception, the propulsion of vessels by the application of the expansibility of heated air, the air supplied from the atmosphere that surrounds them,—it would be found, on consulting the system of laws established for their encouragement and protection, that the world had altogether mistaken the merit of their discovery; that, instead of the originality and brilliancy of the conception that had been unwittingly attributed to them, the whole of it consisted of some simple mechanical contrivances which a mechanician of ordinary skill could readily have devised. Even Franklin, if he had turned the lightning to account, in order to protect himself from piracies, must have patented the kite, and the thread, and the key, as his great original conception, which gave him a name throughout Europe, as well as at home, for bringing down this element from the heavens, and subjecting it to the service of man. And if these simple contrivances, taken together, and disconnected from the control and use of the element by which the new application and new and

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useful result may have been produced, happen to be old and well known, his patent would be void ; or if some follower in the track of genius, with just intellect enough to make a different mechanical device or contrivance for the same control and application of the element, and produce the same result, he would, under this view of the Patent Law, entitle himself to the full enjoyment of the fruits of Franklin's discovery.

If I rightly comprehend the ground upon which a majority of my brethren have placed the decision, they do not intend to controvert so much the doctrine which I have endeavored to maintain, and which, I think, rests upon settled authority, as the application of it to the particular case. They suppose that the patentees have claimed only the combination of the different parts of the machinery described in their specification, and therefore are tied down to the maintenance of that as the novelty of their invention. I have endeavored to show that this is a mistaken interpretation ; and that they claim the combination, only when used to embody and give a practical application to the newly-discovered property in the lead, by means of which a new manufacture is produced, namely, wrought pipe, out of a solid mass of lead ; which, it is conceded, was never before successfully accomplished.

For these reasons, I am constrained to differ with the judgment they have arrived at, and am in favor of affirming that of the court below.

ORDER. This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the Southern District of New York, and was argued by counsel ; on consideration whereof, it is now here ordered and adjudged by this court, that the judgment of the said Circuit Court in this cause be, and the same is hereby, reversed with costs, and that this cause be, and the same is hereby, remanded to the said Circuit Court, with directions to award a *venire facias de novo*.

REVERSED WITH COSTS.

Notes and Citations.

Notes :

1. Patentability of a principle.

O'Reilly v. Morse, 15 How. 62 [p. 483, *post*].

Le Roy v. Tatham, 22 How. 132.

Burr v. Duryee, 1 Wall. 531.

Mitchell v. Tilghman, 19 Wall. 287.

Rubber Tip Pencil Co. v. Howard, 20 Wall. 498.

Fuller v. Yentzer, 94 U. S. 288.

Tilghman v. Proctor, 102 U. S. 707.

Dillon v. Buel Tel Co. 43 C. 9. 377

2. Principle applied in a process. See cases cited under note 1.

3. Result—patentability.

Carver v. Hyde, 16 Pet. 513 (4 Am. & Eng. 365).

Corning v. Burden, 15 How. 252.

Case v. Brown, 2 Wall. 320.

Fuller v. Yentzer, 94 U. S. 288.

5. Patentee is bound by his claim.

Carver v. Hyde, 16 Pet. 513 (4 Am. & Eng. 367).

Vance v. Campbell, 1 Black. 427.

Keystone Bridge Co. v. Phoenix Iron Works, 95 U. S. 274.

Schumacher v. Cornell, 96 U. S. 549.

Water Meter Co. v. Desper, 101 U. S. 332.

Fay v. Cordesman, 109 U. S. 408.

Thompson v. Boisselier, 114 U. S. 1.

Sargent v. Hall Safe & Lock Co., 114 U. S. 63.

M'Pg Co. v. Ansonia Brass Works, 114 U. S. 447.

Notes and Citations.

Shepard *v.* Carrigan, 116 U. S. 593.

M'f'g Co. *v.* Sargent, 117 U. S. 373.

Sutter *v.* Robinson, 119 U. S. 530.

6. A mechanical combination cannot be construed to be for a process.

Grier *v.* Wilt, 120 U. S. 412.

7. Want of novelty must be addressed to the combination, not to the separate parts.

Gill *v.* Wells, 22 Wall. 1.

Corn Planter Patent, 23 Wall. 181.

Fuller *v.* Yentzer, 94 U. S. 299.

Bates *v.* Coe, 98 U. S. 31.

Imhaeuser *v.* Buerk, 101 U. S. 647.

Wicke *v.* Ostrum, 103 U. S. 461.

Novelty a question of fact for jury :

Battin *v.* Taggart, 17 How. 74.

Patent in suit :

No. 2021. Hanson, J. & H. March 29, 1841. Lead Pipe Machine. Reissue No. 82. March 14, 1846.

OTHER SUITS ON SAME PATENT :

Tatham *v.* Loring, 1845. 5 N. Y. Leg. Obs. 207.

Tatham *v.* Lowber, 1847. 2 Blatch. 49.

Leroy *v.* Tatham, 1852. 22 How. 132 ; 1 Whit. 1116.

Notes and Citations.

Tatham *v.* Le Roy, 1852. 2 Blatch. 474.

Tatham *v.* Lowber, 1857. 4 Blatch. 86.

Cited :

IN SUPREME COURT OF UNITED STATES :

O'Reilly *v.* Morse, 1853. 15 How. 62; Bk. 14, L. ed. 601 [p. 483, *post*].

Winans *v.* Denmead, 1853. 15 How. 330 ; Bk. 14, L. ed. 717.

Le Roy *v.* Tatham, 1859. 22 How. 132 ; Bk. 16, L. ed. 366.

IN CIRCUIT COURTS :

Stephenson *v.* Hoyt, March, 1854. 1 MacA.'s Pat. Cases, 292.

In re Corbin & Martlett, April, 1857. 1 MacA.'s Pat. Cases, 521.

Ex parte Mann, September, 1860. Ms. D. C.

Singer *v.* Walmsley, February, 1860. 1 Fish. 558.

Burden *v.* Corning, October, 1864. 2 Fish. 477.

Goodyear *v.* Providence Rubber Co., November, 1864. 2 Cliff. 351 ;
2 Fish. 499.

Arkell *v.* Hurd Paper Bag Co., June, 1870. 7 Blatch. 475.

Milligan & Higgins Glue Co. *v.* Upton, October, 1874. 4 Cliff.
237 ; 1 Ban. & Ard. 497 ; 6 O. G. 837.

Andrews *v.* Carman, April, 1876. 13 Blatch. 307 ; 2 Ban. & Ard.
277 ; 9 O. G. 1011.

McCloskey *v.* Du Bois, 1881. 20 Blatch. 7 ; 9 Fed. Rep. 38 ; 20
O. G. 1086.

New Process Fermentation Co. *v.* Maus, June, 1884. 20 Fed.
Rep. 725.

Johnston Ruffler Co. *v.* Avery Machine Co., July, 1886. 28 Fed.
Rep. 193.

Notes and Citations.

IN OPINIONS OF ATTORNEY-GENERALS :

Morton's Anæsthesia, December 24, 1856. 8 Opinion of A.-G.
U. S., p. 269 (Cushing).

IN CANADIAN COURTS :

Withrow *v.* Malcolm, September, 1882. 6 Ontario Rep. 12.

IN TEXT-BOOKS :

2 Abb. Pat. Law, 1886, pp. 42, 43, 46, 55, 56, 303.
Merwin on Pat. Invt., 1883, pp. 5, 56, 294, 574.
Walker on Pats., 1883, p. 125.
Curtis on Pats., 4th ed., §§ 64, 67, 151, 152, 153.

Statement of the case.

THE TROY IRON AND NAIL FACTORY, APPELLANT, v. ERASTUS CORNING, JOHN F. WINSLOW, AND JAMES HORNER.

14 How. 198-218. Dec., 1852.

[Bk. 14, L. ed. 383; 1 Whit. 691.]

*Inventor of particular patent sustained. Agreement construed.
Personal license.*

1. H. Burden held the inventor of invention in Patent No. 1757, granted him September 2, 1840, for Spike-Making Machine, in view of uncertain and conflicting evidence (p. 392).
2. A particular agreement between a patentee and his infringer, compromising their suit and settling "their conflicting claims to this time" construed not to be a license to continue the use of the invention (p. 400).
3. A mere license to a party, without having his assigns or equivalent words to them, showing that it was meant to be assignable, is only the grant of a personal power to the licensee, and is not transferable by him to another (p. 405).

[Citations in the opinion of the Court:]

- (1) Langton v. Wallis, Ld. Raymond, 399, p. 403.
- (2) Cole v. Knight, 3 Mod. 277, p. 403.
- (3) Knight v. Lawford, 1 Lev. 235, p. 403.
- (4) Yates v. Plaxton, 3 Lev. 273, p. 403.
- (5) Morris v. Wilford, 2 Shower, 47, p. 403.
- (6) Curtis on Patents, § 198, p. 405.
- (7) 2 Story, 525, 554, p. 405.

THIS was an appeal from the Circuit Court of the United States for the Northern District of New York.

The facts are all stated in the opinion of the court.

The bill was filed in the Circuit Court by the Troy Iron and Nail Factory against Corning, Winslow, and Horner, to restrain them from violating a patent issued to Henry Burden on the 8th of September, 1840, for new and useful

Statement of the case.

improvements in the machinery for making hook or brad headed spikes, which patent had been assigned to them ; and also to account for the profits.

After the proceeding mentioned in the opinion of the court, the Circuit Court passed the following decree :

“ This cause having heretofore been brought to a hearing upon the pleadings and proofs, and counsel for the respective parties having been heard, and due deliberation thereupon had, and it appearing to the said court that the said Henry Burden was the first and original inventor of the improvement on the spike-machine in the bill of complaint mentioned, and for which a patent was issued to the said Henry Burden, bearing date the 2d of September, 1840, as in said bill of complaint set forth, and that the said complainants have a full and perfect title to the said patents for said improvements, by assignment from the said Henry Burden, as is stated and set forth in the said bill of complaint :

“ But it also further appearing to the court, on the pleadings and proofs, that the instrument in writing, bearing date the 14th of October, 1845, stated and set forth in the said bill of complaint, and also in the answer of the said defendants thereto, entered into upon a settlement and compromise of certain conflicting claims between the said parties, and among others of mutual conflicting claims to the improvements in the spike-machine in said bill mentioned, and when said instrument was executed by the said Henry Burden of the one part, and the said defendants of the other, the said Henry Burden at the time being the patentee and legal owner of the said improvements, and fully authorized to settle and adjust the said conflicting claims, did, in legal effect, and by just construction, impart, and authorize, and convey a right to the defendants to use the said improvements in the manufacture of the hook-headed spike, without limitation as to the number of machines so by them to be used, or as to the place or district in which to be used :

“ Therefore, it is ordered, adjudged, and decreed that the said bill of complaint be, and the same is hereby, dismissed

Argument of counsel.

with costs, to be taxed, and that the defendants have execution therefor."

From this decree, the complainants appealed to this court.

It was argued by *Mr. Johnson* and *Mr. Stevens*, for the appellants, and by *Mr. Seward* and *Mr. Seymour*, for the appellees.

As the case turned mainly upon the construction of the agreement of October 14, 1845, (which is inserted in the opinion of the court,) only such of the arguments of counsel will be given as relate to that construction.

The counsel for the appellants contended—

Third. It is respectfully submitted, that the instrument of the 14th of October, 1845, does not convey to the defendants any right or title to said invention, or give them any authority to use it in manufacturing hook-headed spikes. Such was not the object or intention of the parties.

This instrument was executed under the following circumstances :

At the June Term of the Circuit Court, 1843, Mr. Burden recovered a judgment for \$700 against the defendants for violating this patent.

On the 2d of October, 1843, Mr. Burden filed his bill in equity in said Circuit Court, to restrain the defendants from further infringing the patent, and for an account.

After this bill was filed, the defendants ceased using the invention for a short time ; and then commenced using it again, as Mr. Burden was informed. Mr. Burden, therefore, on the 13th of November, 1844, made a new affidavit, to obtain an injunction upon his bill previously filed ; and on the 20th of November, obtained an order for an injunction, by default.

On the 25th of November, 1844, the defendant Winslow, and two men by the name of Osgood and Blanchard, made affidavits in said cause, for the purpose of moving the court

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to open the order granting an injunction ; in which affidavit they all swear that defendants did not use Mr. Burden's invention in making hook-headed spikes, but made them with machinery entirely different in principle and mode of operation.

The machinery by which defendants claimed to make the hook-headed spike, after the bill was filed, is described in two patents granted to the defendants, or some of them.

Prior to these legal proceedings, in November, 1844, the parties had been endeavoring to settle, but did not succeed ; subsequently, negotiations for a settlement of the suit were renewed. Mr. Burden claimed that he had the exclusive right to manufacture the hook-headed spikes by machinery, and insisted that defendants should cease making such spikes by machinery. Defendants insisted they had a right to make such spikes by their own machinery, which they insisted in their affidavits, made November 25, 1844, was entirely different in principle and mode of operation from that patented to Mr. Burden.

Mr. Burden claimed that defendants had violated his patent for machinery for making horseshoes, and told defendants, if they did not immediately desist from using his horseshoe-machine, he would prosecute them ; and they did desist and stop, six months before the settlement was made.

It is necessary and proper to take these facts and circumstances into consideration, in giving a construction to the agreement of the 14th of October, 1845.

"It is well settled, that, in the construction of all contracts, the situation of the parties and the subject-matter of their transactions may be taken into consideration in determining the meaning of any particular sentence or provision. Extraneous evidence is admissible, so far as to ascertain the circumstances under which the writing was made, and the subject-matter to be regulated by it." *Sumner v. Williams*, 8 Mass. 214 ; *Fowle v. Bigelow*, 10 Mass. 384 ; *Wilson v. Troup*, in the Court for the Correction of Errors of N. Y., 2 Cow. 228-9 ; *Nesmith v. Calvert*, 1 Wood. & Min. 40.

Argument of counsel.

I. This agreement does not, by its terms, convey, or purport to convey, or in any manner to give or invest the defendants with any interest in, or right or authority to use, the machinery patented in September, 1840, to make hook-headed spike.

1. It was contended, by the defendants, (and, as we understand the decree, so decided,) that the second clause in the agreement, in legal effect, did impart, authorize, and convey to the defendants a right to use the said improvements, without limitation as to the number of machines used by them, or as to the place or territory where they might be used.

The second clause of the agreement is in these words: "And it is further agreed, that the said parties may each hereafter manufacture and vend spike of such kind and character as they see fit, notwithstanding their conflicting claims to this time."

After the judgment at law, in 1843, there was no conflict as to the right of defendants to use Mr. Burden's improvement in manufacturing hook-headed spike. That had been fully settled against the defendants, by the suit at law, and conceded by them.

The defendants did not claim the right to use Burden's invention, but only the right to make said spike by machinery which they claimed was different from Mr. Burden's, both in principle and operation.

Mr. Burden denied this right claimed by the defendants, and claimed that he had the exclusive right to make such spike by machinery. This was the only conflicting claim, as to the right to make spike at the time of the settlement. By this clause in the agreement, Mr. Burden relinquished his pretensions to the exclusive right to make hook-headed spike by machinery; but he gave no right to the defendants to use his improvement in manufacturing such spike.

Whether Mr. Burden was right or wrong in his pretension to the exclusive right to make such spike by machinery, can in no manner affect the construction of the agreement.

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The intention of the parties as expressed in the agreement, taken in connection with the state of facts and circumstances under which it was executed, and the subject-matter intended to be regulated by it, must control the construction of this clause. Mr. Burden supposed he had such exclusive right, and simply relinquished it, without the most remote idea that he was conveying to the defendants any right to use his improvement, much less that he was conveying an interest in his patent equal to one half of it.

The settlement of the equity suit; the relinquishment by Mr. Burden of his pretension to exclude the defendants from making hook-headed spike by machinery; and the settlement, by defendants, of Mr. Burden's claim against them, for infringing his horseshoe patent, for which he had threatened them with a suit, fully satisfies every clause in the agreement; and it cannot be stretched to the enormous extent claimed by defendants, without interpolating other important provisions, which cannot at law be accomplished by parol evidence. An assignment, or any other conveyance of any part of a patent, or of any interest in or under it, must be in writing. Contracts which by law are required to be in writing, cannot rest partly in writing and partly in parol. Is it not most extraordinary that the defendants did not have this agreement recorded in the Patent Office until the 21st of August, 1848, if they had had the least idea that it conveyed to them such an important right as they now claim? Patent Act of 1836, sec. 11; Curtis on Patents, 478.

This instrument has neither the form nor substance of a license or assignment, or any other conveyance of an interest in a patent heretofore in use or known.

If the parties had intended this instrument as a conveyance of any interest in Mr. Burden's improvement, it would have been very easy to have said so. *Nesmith v. Calvert*, 1 Wood. & Min. 40; *Iggulden v. May*, 7 East, 242.

The court below fell into the mistake, that the cause depended upon the question, whether the agreement authorized the defendants to make hook-headed spike.

Argument of counsel.

The opinion of the court, after stating the second clause in the agreement, proceeds :

“Why stipulate that the defendants may thereafter manufacture and vend spikes of any character and description, without regard to previous claims to the contrary, if it was not intended to admit or concede the right to manufacture hook-headed spikes? And how can we say that this particular spike is not embraced in the stipulation?”

“What is meant by the agreement that the defendants may manufacture spikes of such a kind and character as they see fit, notwithstanding their (the parties’) conflicting claims to this time, if it was intended to exclude hook-headed spikes? The argument is quite as strong and well founded, to exclude spikes of any other description. Indeed, stronger, if it were possible, as this particular spike was the principal item in controversy at the time of the compromise or settlement, and a suit was pending in respect to it.

“The language of the instrument is certainly most remarkable, if it was intended by the parties to exclude the defendants from the right to make this particular spike, as there are not only no words of exclusion or prohibition, but an express admission of the right, in terms so full and specific that no argument can make it clearer. We are asked to interpret a stipulation to make any kind of spike the parties see fit, to mean any kind except hook-headed; and spikes, too, in the case of a compromise of a disputed right to manufacture spikes of this character and description, among other matters, this being regarded as the principal one. We think it impossible to come to any such conclusion, without a disregard to the clear import of the agreement.”

The counsel for the appellant in the court below must have been exceedingly unfortunate, if his language presented any such idea. The bill does not claim it, and the written points handed to the court do not pretend it. On the contrary, it was conceded that Mr. Burden relinquished his pretensions to the exclusive right to make those spike

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by machinery, but insisted that he had given no right to defendants to use his improvements for that purpose.

2. The decree assumes that among the conflicting claims settled by the agreement of 14th October, 1845, were the mutual conflicting claims to the improvements in the spike-machine patented by Mr. Burden.

This is mere assumption, founded wholly in mistake. No such conflicting claim is stated in the instrument, and none such was proved to exist at the time of the settlement. The very reverse was sworn to the year before, by the defendant Winslow himself, and by two other witnesses, by his procurement. The correspondence which took place before the settlement shows that no such claim was set up or pretended by the defendants. The judgment at law had fully and definitely settled and determined that the defendants had no such right.

But if such conflicting right to Mr. Burden's improvement had existed at the time of the settlement, the terms of the agreement would not confer any right upon the defendants to use it.

The agreement concedes the defendants' right to make any kind of spike they see fit, which, of course, embraces hook-headed spike; but it does not, directly or indirectly, give or concede the right to defendants to use Mr. Burden's improvement for that purpose. "The said parties may each hereafter make and vend spike of such kind and character as they see fit." But how manufacture? The agreement does not specify how; but the plain construction is, that it should be done as it had been done from the recovery of the judgment at law up to the time of the settlement—that Mr. Burden should manufacture the spike with his machine, and the defendants with their machine, which they claimed and swore was totally different from Mr. Burden's in principle and mode of operation. Can it be pretended that the defendants gave Mr. Burden any right to use their machine? Had Mr. Burden ever claimed any such right? Had it been shown that hook-headed spike could not be made without the use of Mr. Burden's im-

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provement, might have furnished some ground for an argument that, by implication, such right was given by the agreement.

But such was not the fact. Hook-headed spike could be made, and were made, by hand, prior to Mr. Burden's invention ; and the defendants show that as early as the fall of 1844 they had machinery by which they made hook-headed spike, which was wholly different, both in principle and mechanical operation, from Mr. Burden's improvement ; and the only right they claimed, after the judgment at law up to and at the item of the settlement, was to make such spike by that machinery, and disclaimed all right or desire to use Mr. Burden's improvement.

3. Mr. Burden could not have intended to convey such an interest to the defendants.

It would have been a violation of his duty to, and his contract with, the appellant ; and would have deprived him of the benefit of a contract from which he received more than \$10,000 annually.

4. There was no adequate consideration for the conveyance of such an extensive interest in this patent.

The defendants allege, in their answer, that the purchase by them of the appellant of half of a dock was a part of the same transaction, and a part of the consideration for this agreement.

This pretence is fully disproved. The evidence clearly shows that the agreement to purchase the dock, although made at the same time with the other agreement, had no connection with it, and that the one-half of said dock was worth more than the \$1,500 which defendants paid for it.

The defendants also set up, in their answer, that their agreement not to make horseshoes was a part of the consideration of the agreement on the part of Mr. Burden.

The evidence shows the facts to be, that, prior to this settlement, the defendants had been infringing Mr. Burden's patent for a machine to make horseshoes ; were threatened with a suit if they did not desist ; and they did desist six months before the settlement. The defendants had a pat-

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ent for machinery to make horseshoes, but it was worthless.

Mr. Burden did not claim that the defendants should not make horseshoes with the machinery they had patented, but that they should not use the machinery he had patented for that purpose. If horseshoes could have been made by the machinery patented by defendants, the agreement gives neither Mr. Burden nor the appellant any right to use that machinery, nor does it restrict the defendants from selling to others the right to make horseshoes with the machinery patented by them. There is nothing in the agreement which would prohibit the defendants, or their assignees, from maintaining a suit against the appellant or any other person for infringing defendants' patent, should the appellant or any other person use the invention thereby patented.

The defendants also allege, in their answer, that they had used the improvement in question to make hook-headed spike since said settlement, and appellant never requested them to cease using the same, or to account for any profits for such use.

The fact thus alleged, the defendants insisted, in the court below, was a circumstance to show that the appellant and Mr. Burden understood and considered the said agreement as conveying to the defendants the right to use said improvement.

The answer to this is—

1. The answer does not allege that the appellant, or any of its officers or agents, knew that said defendants were using said improvement.

2. It is proved that neither Mr. Burden nor any other of the officers or agents of the appellant knew that defendants were using said improvement until August, 1847.

Defendants also insist that Mr. Burden, by his letters, bearing date between the 9th of March, 1846, and the 29th of December, 1846, both inclusive, requesting defendant Winslow to agree upon the price for which they would sell hook-headed and other spike, recognizes the defendants' right to use said improvement.

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The answer to this position is, that just such an arrangement as requested in those letters had existed between the appellant and defendants for nine years before the settlement of 14th of October, 1845, and at the time Mr. Burden wrote those letters he did not know that defendants were using his improvement to manufacture hook-headed spike.

The letters were, also, written by Mr. Burden before he knew defendants were using his improvement in making hook-headed spike.

Indeed, none of the letters in any manner intimate that the defendants were using, or had any right to use, the improvement.

The counsel for the defendants in error contended that the decree of the Circuit Court should be affirmed, because—

I. The agreement of October 14, 1845, was a valid agreement, binding upon the parties.

1. It was made by parties fully competent to contract in reference to the subject-matter of the contract.

Burden was patentee, and as such could contract for himself as the owner of the patent. He was also at the time a large stockholder in the complainants' corporation, and their agent, and as such could contract for them.

The allegation made by the complainants, in their bill of complaint, that Henry Burden "had no power or authority to give such license, your orator having been the legal and equitable owner of the said last-mentioned patent, and the rights and privileges granted and secured thereby, from the time said patent was granted," is not sustained by the proof.

The only proof tending to show that on the 14th of October, 1845, the complainants were the owners of this improvement of the bending lever, and that therefore Burden had no authority to grant a license, or make a contract as to the use of the same, is to be found in the agreement between Burden and complainants as to the patents for the spike-machine and the horseshoe, and dated 2d of December, 1836.

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In reference to this agreement, the defendants insist as follows :

1. The agreement between the plaintiffs and Henry Burden, of December 2, 1836, did not even purport to convey to the plaintiffs any interest or right to the patent of 1840, or to the bending lever, the thing patented. It first gives the right to use the machines for manufacturing wrought nails or spikes, then on the premises of the company ; and secondly, the exclusive right to construct other machines for the manufacturing wrought nails or spikes, after the method invented by Burden, with all the improvements which he had made, or should make in the same, in any other part of the United States ; and thirdly, a covenant that he, Burden, would obtain a patent for any improvements which he should afterward make in his nail and spike machine ; and then provides that " the license hereby granted to the party of the second part shall be deemed to extend to all such improvements." It only contemplates the granting of a license ; and the statement in the assignment of June 19, 1848, that Burden had agreed to transfer and assign the improvement, is not true.

The bending lever, patented by the patent of 1840, was not then in existence. It was a mere contingent possibility, and therefore was not susceptible of being conveyed. There was nothing to convey. Phillips on Patents, 354 ; Curtis on Patents, sec. 189.

The privilege of assigning, given by the eleventh section of the Patent Act of July 4, 1836, implies that the thing assigned shall be then in existence ; and the subsequent requirement in the same section, as to recording the assignment, supports the same idea.

2. Even if this agreement did purport to grant and assign a future improvement thereof, such grant could not apply to the bending lever, for the reason that the bending lever is not an improvement upon either of the patented machines mentioned in the agreement of December 2, 1836, but is a distinct and independent article or invention, equally

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applicable to any spike-machine, and, in fact, used upon various other machines.

The plaintiffs consider the agreement of December 2, 1836, as merely a covenant to convey the improvement alleged to have been patented on the 2d of September, 1840, and have accordingly resorted to a special assignment of it, which was made on the 19th of June, 1848, and which in terms refers to the agreement of December, 1836, as merely a covenant to convey subsequent improvements, and purports to have been given in performance of such covenant.

The right of the plaintiffs to this improvement of the bending lever is based in their bill upon the assignment of the 19th of June, 1848. This right is therefore subject to any rights that were acquired by the defendants by the agreement of October 14, 1845.

But if the complainants had, previous to the 14th of October, 1845, become the owners of the improvement called the bending lever, and the patent therefor, still, as general agent of the corporation, Burden had a right to enter into the agreement of October 14, 1845, and it binds his principals.

3. The agreement of October 14, 1845, was founded upon a good and valuable consideration as between the parties,—first, the settlement of the suit then pending between them; and second, the relinquishment by the defendant Winslow, in behalf of himself and his co-partners, of the right to manufacture the patent horseshoe, an advantage worth to the other contracting party \$10,000 per annum.

4. The agreement, too, was carried out by the parties,—first, by the conveyance of the dock property by the plaintiffs, and its occupation by the defendants; second, by the payment of the consideration of the dock property by the defendants; thirdly, by the relinquishment by the defendants of the horseshoe business, from that time to the present, and the enjoyment of it as a monopoly ever since by the plaintiffs; fourth, by the continued use by the defend-

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ants of the bending lever in making hook headed spikes, from the 14th of October, 1845, to the 8th of July, 1848, two years and about nine months, without objection, they having made during that period hook-headed spikes to the value of over \$137,000.

III. The agreement of October 14, 1845, was a contract for the settlement of conflicting claims to two patented machines,—one for the bending lever, and the other for the horseshoe-machine; and it not only gives rights to make the spikes and the horseshoes, but to use the respective patented machines in making them.

The agreement of October 14, 1845, does not, in terms, give the right to the defendants to use the machines patented by Burden, by his patent of 1840, but it does give it by the strongest implication. It releases all claims for violation of patent-rights up to that date, and gives the right to both parties thereafter to manufacture and vend spike of such kind and character as they see fit, notwithstanding their conflicting claims to that time.

Defendants' exhibits show that those conflicting claims related only to the use of the patented machinery. This is also shown by Burden's letters. The subject-matter of this general settlement was, therefore, their conflicting claims to the use of the patented machinery. The agreement gives the right to make the spike, which could be made for sale in market only by the use of the bending lever, or of some analogous device. *Rutger v. Kanowrs*, 1 Wash. C. C. 168; *Phillips on Patents*, 346.

A construction of the agreement of October 14, 1845, which would allow the defendants only the privilege of making the hook-headed spikes, and would deny them the use of the bending lever in making them, would render the instrument senseless, absurd, and inoperative.

For if it is held that the defendants obtained under the agreement only the privilege of making hook-headed spikes, either by hand or by the use of any machinery which they might choose, other than that which should infringe upon Burden's patent, then it results that the de-

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defendants relinquish the patent horseshoe business, worth, as is proved by the testimony of Mr. Davidson, \$10,000 per annum, for the privilege of doing just what they had a right to do before, and what everybody else had the right of doing, that is, making those spikes by hand, or with any machinery not infringing on Burden's patent. Such a construction would be contrary to the well-settled rule in the interpretation of contracts, that when a clause is capable of two significations, it should be understood in that in which it will have some operation, rather than in that which it will have none, "*ut res magis valeat quam pereat.*" Pothier, cited in 2 Comyn on Contracts, 533; Parkhurst v. Smith, Willes' Reports, 332; Archibald v. Thomas, 3 Cowen, 290. An agreement, or contract, must have a reasonable construction, according to the intent of the parties,—as if a man agree with B for twenty barrels of ale, he shall not have the barrels after the ale is spent. Comyn's Digest, title Agreement, C. So if a man promise payment without saying to whom, it shall be intended to him from whom the consideration comes. Cro. Eliz. 149. And upon a promise of payment, according to the rate of forty shillings per ton, it shall be intended that payment will be made for the odd pounds, according to the same rate. [Bettisworth v. Campion] Yelverton, 134.

The practical construction of both parties has been in conformity to the interpretation on which the defendants insist,—"*Contemporanea expositio est fortissima lex.*"

If the construction were a doubtful one, it should, under the circumstances, be held to be against that set up by the plaintiffs, whose grantor, Henry Burden, is the contractor. In a case of doubt, the words of a promise or covenant are to be taken most strongly against the promisor or contractor. Coke Litt. 183a. This rule should be applied in this case especially, for two very apparent reasons: First, because it was well understood by both parties with what machinery alone these hook-headed spikes could be successfully made for sale in market, and that the defendants were then using that machinery in their works; and, secondly,

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because Burden had a strong pecuniary motive to deal in generalities, and not to grant specifically and clearly a license to use the bending lever. He feared he might jeopard the thirty per cent. secured to him by the agreement of December 2, 1836, and which was afterward in controversy, and was claimed by the plaintiffs to have been forfeited by him, and yet he desired to obtain the monopoly of the horseshoe business.

The contemporaneous exposition of the agreement by Burden is in accordance with the position of the defendants. See his letter of December 15, 1845, and his letter of December 11, 1846. In this latter letter, Burden speaks of his intention to share the spike business with defendants. He very well knew that could not be done except by uniform prices, and that we could have no uniform price with him unless we used the bending lever.

But there was an actual sharing between appellant and respondents of contracts for spikes. Burden declared that it was his intention to share with respondents the spike business, and this was done, as is shown by his letters. Such was the practical contemporaneous construction of the agreement; and it appears by Burden's letter of February 10, 1848, that not only was there to be a uniform price for hook-headed spikes, but that the whole field was to be occupied by the parties in common, and to the exclusion of all others. The whole object of this letter was to tell respondents what he had been doing to protect their common rights. Can there be anything more needed to show that it was the understanding of both parties, that by the agreement of October 14, 1845, respondents had the right to use the bending lever?

Winslow's letters, written in January, 1845, show that respondents were using the bending lever at that time, and that Burden then knew it. In Burden's letter of January 10, 1845, and in Winslow's reply to it of January 13, 1845, they both refer to "the machinery in question," which can only mean the bending lever.

IV. But whatever might have been the construction

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which a court would, under other circumstances, have put upon this agreement, a court of equity will not now grant an injunction, as is prayed for in the complainants' bill, after an acquiescence in the use of the patented machinery, under this agreement of October 14, 1845, for near three years before the commencement of this suit. *Wyeth v. Stone*, 1 Story, 273; *Rundle v. Murray*, Jacob's R. 311; *Williams v. The Earl of Jersey*, 1 Craig. & Phil. 91; *Warwick v. Hooper*, 3 Eng. Law and Eq. R. 233, cited; U. S. Dig., Appendix, vol. 5, 1851, title Patent.

Mr. Justice WAYNE delivered the opinion of the court.

This is an appeal from the Circuit Court of the United States for the Northern District of New York.

The appellants are a manufacturing company incorporated by the laws of the State of New York. They aver that Henry Burden was the inventor of a new and useful improvement in the machinery for manufacturing wrought nails and spikes, for which letters patent were granted to him on the 2d of December, 1834. They allege that it was assigned to them for a valuable consideration, and also that Burden covenanted with them, if he should thereafter make any improvement upon his invention, that he would convey the same to them. Burden afterward did make a new and useful improvement in machinery for making hook or brad headed spikes, for which a patent was granted to him on the 2d of September, 1840. He assigned it to the complainants, in virtue of his covenant, whereby they became the exclusive owners of the patent. They then complain that the defendants had infringed the same, by having erected and put in use in their iron and nail works, in the city of Troy, four or five machines for the manufacture of hook or brad headed spikes, containing the improvements in their assigned patent, and had used them for manufacturing hook or brad headed spikes since the 15th of October, 1845.

It is also stated that Burden brought an action at law against the defendants, for an infringement secured by the

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patent of September 2, 1840. The defendants resisted a recovery, upon the ground that Burden was not the first inventor of the improvements for which that patent had been obtained. A trial of this case upon the merits resulted in a verdict for Burden for seven hundred dollars, which was carried into a final judgment against the defendants, after a motion which they made for a new trial had been overruled.

The defendants are then charged with again using the improvements in the patent of 1840, under the pretence that they have a license from Burden to do so. This is denied by the complainants ; and they say if such license had been given by Burden, that it was in contravention of his assignment to them of his patent, by which they became the legal and equitable owners from the time it was granted, on September 2, 1840.

The bill is then concluded with a prayer that the court would enjoin the defendants, Corning, Horner, and Winslow, their attorneys, and agents, and workmen, to desist from making, using, or vending any machine containing the improvements for which letters patent were granted to Burden on the 2d of September, 1840, and from selling or using any spikes which they then had on hand, which had been manufactured by their machines containing the improvements of that patent. An account of the profits which they had derived from the use of such patented improvements is also called for.

The letters patent granted to Burden on the 2d of September, 1834, and that of the 2d of September, 1840, describing an improvement called a bending lever, in the machinery for making hook or brad headed spikes, are made exhibits to the bill.

This bill was answered by the defendants.

It admits that the complainants were an incorporated body, under the style of the Troy Iron and Nail Factory Company ; also, that Henry Burden was the inventor of the improvements in the machinery for making nails and spikes, for which letters patent were granted to him in

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December, 1834, and that he assigned the same to the complainants two years thereafter. But they deny that there was any covenant in the assignment, or in any other agreement then recorded in the Patent Office, or any agreement between Burden and the complainants, obliging him to convey to them any improvement which he might make upon his invention. And they insist, if such an agreement was made, that, as it was only a covenant to convey a contingent possibility, which would be inoperative and void, it could not affect them. The defendants also admit that Burden obtained the patent of the 2d of September, 1840; but they deny its validity. They declare that the bending lever described in the specification of it, or one similar to it in form and principle of construction and operation, had been invented and had been used by several persons, in making spikes, for several years before the patent had been obtained by Burden for his improvement of the bending lever. They state that it was invented by Thomas and William Osgood, and used by them in the years 1835-'36-'37-'38, upon one of their spike-machines, to make hook or brad headed spikes, which they sold during those years in Philadelphia. It is also stated by the defendants that the bending lever patented by Burden was the invention of one Ebenezer Hunt, while he was in the employment of the former. It is then admitted that Burden assigned to the complainants his patent for the bending lever in June, 1848; but it is said to have been fraudulently done, and that the appellants have no right, legal or equitable, to that improvement, under that assignment, or by that of the agreement between the complainants of Burden, of December, 1836. And, it is added, should they have any right or interest in the patent for Burden's bending lever, that the defendants have also the right to use the same under an agreement with Burden of the 14th October, 1845, which was made for himself, and in behalf of the appellants, as their agent, before he had assigned it to them in 1848.

The defendants then aver that this agreement of the 14th of October was made with the understanding, of both

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parties, that it would finally settle all differences between themselves, and Burden, and the complainants which had arisen out of counter-claims by both parties to a patent for making horseshoes, and also to a patent-right for making hook or brad headed spikes, each party claiming the right to manufacture and vend such horseshoes and such spikes under their respective counter-claims and patents, without the permission of either to the other, and to use, in the manufacture of the brad-headed spike, Burden's bending lever.

The consideration of the agreement is said to have been a purchase by the defendants from the complainants of an undivided half part of a dock on the Hudson River for \$1,500, a grant by the defendants to them for the exclusive manufacture of patent horseshoes, and a mutual relinquishment of their counter-claim to the patents for making hook-headed spikes by a bending lever. It is averred that they had used Burden's bending lever in the manufacture of such spikes from the date of the agreement, with his knowledge, without objection by him or by the appellants, and that Burden had discontinued the suit against them. It is not necessary to state more of the pleadings. The abstract given discloses what had been the relations between these parties for several years before this suit was brought, and their views and conduct respecting the patent for the bending lever.

We will now turn to the evidence in the case. It shows, first, that every allegation in the bill has either been proved or admitted by the answer of the defendants, excepting such as they respectively make concerning the agreement of the 14th of October, 1845, which will hereafter have our attention.

The letters patent obtained by Burden in 1834, which describes a machine for making nails and spikes, is annexed as an exhibit to the bill, and so is that afterward granted to them in 1840, for his improvement on the first, for making hook or brad headed spikes. The answer admits that he was the inventor of the first, and that he had a patent

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for it. It also admitted that he obtained a patent for the other ; but it is denied that he was the inventor of it. This the defendants have failed to prove ; and, in our opinion, the evidence given by them on that point rather serves to establish the originality of the invention than to impair it. We think so, because it is uncertain and conflicting, and, as our learned brother said concerning it in the court below, is irreconcilable. The appellants stand upon that patent as the first which was granted for the bending lever, and they may well do so, until other evidence than that in this record shall be given to disprove its originality. It is admitted that Burden assigned that patent also to the appellants ; but it is said to have been fraudulently done, and that it was not made because Burden had covenanted, in his assignment to them of his first patent, to convey to the appellants any improvements he might thereafter make upon that machine during the time that the patent had to run. The assignment by Burden to the appellants of his patent for making wrought nails or spikes is dated in December, 1836, just two years after it was obtained. It contains, after the transferring clause, and in connection with it, these words : " With all the improvements which he hath made or shall make in the same, in any other part of the United States, as the said parties of the second part shall deem expedient, during the term for which the same are or may be patented by the said party of the first part." The assignment itself being admitted by the defendants, this, as a part of it, must also be included in the admission. It is, in our opinion, a covenant which bound Burden to convey to the appellants his improvement upon his machine of the bending lever. Though the assignment of it was not made until several years after it was patented, the appellants were equitably entitled to it before. Without something besides to sustain them than the delay in making the assignment, the defendants had no ground for stating that it was a fraudulent device to overreach and defeat the agreement between themselves and Burden of the 14th of October, 1845. The defendants also admit that they were

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sued by Burden in 1842 for an infringement of the rights secured to him by his patent for the bending lever ; that though they had resisted it, upon the ground that Burden was not the inventor, the jury who tried the case upon its merits had returned a verdict against them for the infringement, with seven hundred dollars damages ; and that it was carried into judgment. This was in the year 1843.

In November, 1844, Burden, believing that the defendants were again using his bending lever for making brad-head spikes, brought against them a bill to enjoin them from doing so, and asking for an account. They had notice of it, but, from some accidental cause, they did not appear to resist the application ; and an injunction was granted until the further order of the court.

In a few days, with the view to be released from it, Mr. Winslow, in behalf of himself and his associates, filed an affidavit, with another made by Thomas Osgood and Israel Blanchard. In each of them, they swear that the defendants were not using Burden's invention in their manufacture of hook or brad headed spikes, but that they made them with machinery altogether different in principle and mode of operation from that which they were using when Mr. Burden sued them in 1842 for an infringement of his patent, and when he obtained a judgment against them. Mr. Winslow states that the machinery they were then using is entirely different in principle and operation from the machine used by Burden in making hook and brad headed spikes. Osgood and Blanchard, after stating that they had been in the employment of the defendants for several years, say that they were well acquainted with the process used by the defendants in making hook-headed spikes, and with that which they were using when the defendants were prosecuted for an infringement of Mr. Burden's patent, and that they were well acquainted with the improvement claimed to have been invented by Burden ; that the machinery then used by the defendants not only differed from that which they used when they were prosecuted for an infringement of Burden's patent, but also that

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the process then in use by the defendants, by which the hook-head is formed, is entirely new, and different in principle and use from the bending lever described by Burden in his patent. They proceed to say that Burden's patent, in their opinion, is in no manner violated by the manufacture of hook-headed spikes, in the mode in which they are now made by the defendants. The process mentioned by them, and by Mr. Winslow, is not stated in their affidavits. What it was, we do not know with certainty.

These affidavits show the attitude in which the defendants put themselves, on the 25th of November, 1844, in the suit then pending with Burden.

It was this: That, as a defence against that suit, they claimed the right to manufacture hook or brad headed spikes by machinery entirely differing in principle and operation from Burden's bending lever for the same manufacture.

So it continued until the agreement of the 14th of October, 1845, was made. Then, and the day after, all of the new processes mentioned in the affidavits of Winslow, Osgood, and Blanchard, for making brad-headed spikes, and such as are described in the patents obtained by the defendants, were set aside in their factory for Burden's more manageable and efficient bending lever.

This brings us to the consideration of the agreement. We give it *totidem verbis*:

“Agreement made this fourteenth day of October, 1845, between Henry Burden, of the one part, and Erastus Corning, James Horner, and John F. Winslow, of the other part. Whereas, a suit is now pending in the Circuit Court of the United States, in the Northern District of New York, in favor of the said Henry Burden, against the said Corning, Horner, and Winslow, arising out of the alleged violation and infringement of a patent-right claimed by said Burden for making of spike, both parties claiming the right to make said spike, it is now agreed, between the said parties, that the said suit shall be, and is hereby, discon-

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tinued, each party paying their own costs. And it is further agreed, that the said parties may each hereafter manufacture and vend spikes of such kind and character as they see fit, notwithstanding their conflicting claims to this time. And the said John F. Winslow, claiming, as patentee, to have the right, for the benefit of the said Corning, Horner, and himself, to manufacture the patent horseshoe, and the said Henry Burden also claiming such right exclusively, it is severally agreed, by said Corning, Horner, and Winslow, that said Burden may manufacture said patent horseshoes, and that said Corning, Horner, and Winslow will not manufacture them. And each party, in consideration of the premises, hereby releases to the other, or others, all claim, demand, and cause of action, by reason of any violation of the patent-rights claimed by them as aforesaid, to the date thereof.

“ Dated October 14, 1845.

H. BURDEN.”

It contains, besides its premises, which will be seen are not unimportant for the construction of it, four substantive clauses.

First, the discontinuance of the suit then pending between the parties, each party to pay their own costs. Next, that each party might thereafter manufacture spike of such kind and character as they see fit, notwithstanding their conflicting claims to that time. Then the concession by the defendants to Burden, that he may manufacture the patent horseshoes, and that they will not do so, though they had claimed the right to make them, notwithstanding Burden's exclusive claim for that purpose. And this is followed by releases by each party to the other of all claim, demand, and causes of action, by reason of any violation of the patent-rights claimed by them as aforesaid, to the date hereof.

The defendants contend, that, in virtue of this agreement, they have a right to use the Burden bending lever upon their spike-machines; that it was made for the settlement and compromise of all differences and claims then existing

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between themselves and Burden, on account of their counter-claims for making patent horseshoes and brad-headed spike; and that the consideration of the agreement on their part, was that they had given to these appellants fifteen hundred dollars, for an undivided half part of a dock on the Hudson River; had conceded to them an exclusive privilege to make patent horseshoes; and that each party had relinquished to the other their patents for making hook-headed spikes by a bending lever, so that both might use that of the other. It is further stated by the defendants that they had fully performed their obligations of the agreement, and that they had, from the date of it, used Burden's bending lever in making spike, with the knowledge of Burden and the appellants, without any objection by either of them.

From the premises of the agreement, it appears that the suit to be discontinued was one which Burden had brought against Corning, Horner, and Winslow, for an alleged infringement of his patent for making spike, each party in the suit claiming the right to do so. What their counter-claims were are not given in the agreement. They are, however, distinctly recited in the bill and in the answer of the defendants, as they say they existed at the date of the agreement. Each party, at that time, claimed a right to make brad-headed spikes by different machines. Burden's claim is put upon his patent for the bending lever. The defendants denied that they had infringed it by the machine which they had in use, and swear that it was different in principle and operation from Burden's patent bending lever. It is also said by them, in their answer, that there were differences between them as to a patent for making the horseshoe. The differences, however, on that account, were never litigated by the parties, and the subject is only before us because it is mentioned in the agreement, and in the answer of the defendants in this suit.

Having ascertained, from the agreement itself, and from the pleadings in this suit, what were the conflicting claims between the parties when the agreement was made, we are

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prepared to give our construction to that clause of it from which the defendants claim the right, or a license, to use Burden's bending lever for making brad-headed spikes.

It is in these words : " And it is further agreed, that the said parties may each hereafter manufacture and vend spike of such kind and character as they see fit, notwithstanding their conflicting claims to this time,"—that is, up to the date of the agreement.

The limitation as to time clearly indicates, as the existing litigation between them in the suit had been the rights claimed by both in it to manufacture brad-headed spike with a bending lever, operating differently in the machines which they were respectively using in their factories, that each thereafter could make and vend them, notwithstanding the claim made by Burden, in his bill, that he had by his patent the exclusive right to make them. The words are, " that the said parties may each hereafter manufacture and vend spike of such kind and character as they see fit." Burden had obtained at law one verdict against the defendants, for a violation of his patent, and the suit then pending was another, which he had brought in equity, to restrain the parties from continuing the infringement. They deny that the judgment against them in the suit at law had settled the validity of Burden's patent ; that that question was still open in the second suit, as they say it is in this, the third suit ; but in no one of them did they ever claim the right to use Burden's invention as such, or as they now claim to do, under the agreement, but they claimed, in all of them, only a right to make brad-headed spikes by machinery which was different in principle and operation from Burden's patent. When the parties were adjusting a compromise of the second suit, and up to the time when it was done, Burden had claimed an exclusive right from his patent to make brad-headed spike with a bending lever. The defendants claimed also that right, and it was because they exercised it that Burden sued them for an infringement of his patent. Both parties were making brad-headed spike : Burden, under an unquestioned right, growing out

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of his patent ; the defendants, under a controvertible claim, which the suit was brought to settle judicially. They had already almost obtained a monopoly for the supply of such spike for the railroads of the country. It was with the hope of doing so entirely, and with the expectation of dividing the spike business of the United States between them, notwithstanding the threatening competition of other persons who claimed the right to make brad-headed spike, and were making them with a bending lever, that Mr. Burden and these defendants were induced to compromise their litigation. It was a mere matter of interest which actuated them, without any other sympathies between them than the disinclination of all persons to have the relations of social life and of business broken up by protracted litigation. But each party, business-like, alive to his own interest, did not mean to make any sacrifice to the other, except such as their common object might require ; that was, to drive all others out of the brad-headed spike trade. Burden had obtained one verdict against the defendants for infringing his patent. He was suing them for doing so again, and had obtained no injunction *nisi*, to restrain them from continuing it. They continued to make spike with a machine, alleging it to be no infringement of their competitor's patent. That was the point of controversy. It was believed by both of them that their common interest required a relinquishment of it by Mr. Burden, and he made it, intending that each might thereafter make brad-headed spike himself, as he had a right to do from his patent, and the defendants, as they represented themselves to be doing, by the machine which they swear was different in principle and operation from his, and no infringement of it. Brad-headed spike could be made with either of them, and that being the case, it was agreed that each might thereafter manufacture and vend spike of such kind and character as they might "see fit" to do.

It was admitted, in the argument of this case, (and, had it not been, it is certain,) that the agreement of October 14, 1845, does not, in terms, give to the defendants the right to

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use the machines patented by Burden in 1840. But it is said it does give that right by implication ; that such was the understanding and intention. And that is inferred from matters in the agreement, and from a circumstance out of it, which are said to determine its construction in favor of the claim made by the defendants to use Burden's patent. We proceed to examine it.

In the agreement, it is said : " Each party, in consideration of the premises, releases to the other all claim, demand, and cause of action, by reason of any violation of the patent-rights claimed by them as aforesaid, to the date hereof." Those are its words.

By the premises, of course, in its use here, is meant all of the deed which precedes the releases, making every part or clause the consideration for which the releases are given. The release is a relinquishment by both parties of all claim, demand, and cause of action for the violation of patent-rights claimed by them to that date. It is imperfectly expressed as to the subject-matters in controversy, which were then to be compromised, as they appear in the suit. That such was the intention, appears from the language of the release, it being for any violation of the patent-rights claimed by them. The defendants never charged Burden with any violation of any patent of theirs in their pleadings. They make but two claims : the first, that they had as good a right to make brad-headed spikes as Burden had, notwithstanding his suit against them for infringing his patent ; and as patentee that they had a right to manufacture the patent horseshoe, against the exclusive claim of Burden, under his patent, to make them. Now, though the release, as it is expressed, may imply that there had been between the parties other claims than such as we find in the suit and in the agreement, we think the words in the release, " claimed by them as aforesaid," fix its meaning to what is expressed. And if this was not so, we should say, without these words, " claimed by them as aforesaid," that the general words would be restrained by the particular occasion of using them ; and that its meaning is, that Burden re-

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leases to the defendants, for the considerations of the agreement, all claim and causes of action up to that date, for any violation of his patent-rights for the horseshoe and bending lever, for which they asserted a claim as well as himself. [Langton *v.* Wallis] *Ld. Raymond*, 399; [Cole *v.* Knight] 3 *Mod.* 277; [Knight *v.* Lawford] 1 *Lev.* 235; [Yates *v.* Plaxton] 3 *Id.* 273; [Morris *v.* Wilford] 2 *Shower*, 47.

Besides, the releases being operative only up to that date, it is very difficult to admit that it was meant to provide prospectively for the defendants to use a particular machine, for any previous violation for which they were then to be released. It is a bar to any right of action for the past for the causes stated, and not a limitation upon the releases for anything of a like kind which may be done thereafter.

But it was also urged that the rights of the defendants, under the agreement to use Burden's bending lever, might be inferred from their relinquishment to the appellant of their right to make the horseshoe. The proofs in the case disclose that Burden had obtained in November, 1835, a patent for a new and useful improvement in the machine for making horseshoes, and that he also patented another improvement upon that in 1843. In May, 1844, Mr. Horner and Mr. Winslow bought from Elisha Tolles and Nathaniel B. Gaylord, for \$1,000, a patent for making or bending horseshoes, claimed by Tolles as his invention, of which Gaylord became the owner of an undivided half, by assignment from Tolles, before the latter obtained his patent, in 1834. In the agreement for the purchase, it is recited that the patent having been lost, a new patent was issued to Tolles in May, 1844. The view taken by Winslow and Horner of their purchase of that patent is shown by covenants in the agreement. It is, that in case it shall at any time appear, by the decision of any court having competent jurisdiction, that the patents conveyed to Winslow and Horner were not valid and effectual to secure to them the exclusive privileges thereby granted; whether for the reason

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that Tolles was not the original inventor of the machine, or otherwise, then, that the purchase-money was to be returned to Horner and Winslow, with interest from the time it was received, both Tolles and Gaylord being only responsible for the portions of the money that they might receive, Gaylord guaranteeing to the purchasers one hundred dollars of the three hundred and seventy-five dollars which, it appears, he did receive from Mr. Winslow, Gaylord having on the same day received from him six hundred and seventy-five dollars. Such was the claim of the defendants for a patent for bending horseshoes, and no more. The defendants had the right to buy such a patent, with an undertaking to pay the expenses of a lawsuit, if they pleased to do so. And they had a right to use the patent which they bought, if it had really been obtained, and was not an infringement of another patent. But having shown their own apprehension of its invalidity, and provided that they were to lose nothing by it, in case it should prove to be the right which they asserted under it in the agreement of 14th of October, 1845, can only be viewed by us as a relinquishment of a very doubtful claim to make the patent horseshoe, to the exclusive claim made by Burden, to make them under his patent, which formed an inducement with the latter to enter into the release contained in that agreement. As to the circumstance out of the agreement, upon which the defendants state formed in fact the consideration, it is only necessary to say, it sufficiently appears that the undivided half of the dock which they bought from the appellants was fully worth the sum paid for it when the purchase was made, and therefore the price given cannot be a consideration for anything else.

We have so far construed the agreement from what is expressed in it, in connection with the claims made by the parties in the suit which Burden agreed to discontinue. There are other reasons which would bring us to the same conclusion.

Though no form has been prescribed, either for assignments of patents or for licenses to use them, we have judicial

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decisions concerning both, which are to determine what language will make either, and how they are to be distinguished from each other. The clause of the agreement from which the defendants wish it to be inferred that they have a right to use Burden's bending lever, gives nothing definitely. The claim made by them in their answer is uncertain. It is difficult to distinguish whether they mean to claim by assignment or by a license; and when it was urged in the argument that they did so by license, it was equally uncertain whether they did so upon a claim which they might assign or use for others who might become owners in their factory, or which they could only personally use without being transmissible by them to others. The difference is well understood. A mere license to a party, without having his assigns, or equivalent words to them, showing that it was meant to be assignable, is only the grant of a personal power to the licensees, and is not transferable by him to another. Curtis on Patents, sec. 198; 2 Story, 525, 554. It is true, that in the argument the claim was for a license to use Burden's bending lever; but to what extent, or where or for what time, was not said; nor can it be collected from their answer. Such uncertainties we cannot affirm of an agreement which definitely states what they may do. Further, we cannot adopt the construction of the agreement contended for by the defendants, because they gave no such consideration for such an interest in Burden's patent. We do not say an inadequate one, but no consideration; we can find none in the agreement, nor any in what is said in their answer to have been a consideration. It has already been shown that the dock bought by them from the appellants could not have been any part of a consideration, because the proofs in the cause show that their use of it is a convenience in their business, and that the interest which they acquired in that property was fully worth the price given by them for it. In addition to what has already been said concerning the relinquishment of the horseshoe manufacture, or that Burden might manufacture them, and that they would not,

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we cannot see how that, as a part of the agreement, can be made by any implication to mean more than this: that it was a surrender to the exclusive claim of Burden to make them of a very equivocal right upon their part to do so, for the discontinuance of the pending suit for the allowance to them to make brad-headed spike, which it was the purpose of the suit to prevent, and for the releases mutually given against any future claim for past violations of the patent-rights claimed by them in their pleadings. We think, from the agreement, that such was the intention of the parties to it, notwithstanding the declaration of the defendants that it was otherwise. We do so, because there is no proof of it in the case, and because it is not permitted to a party to control a written agreement by parol testimony of declarations or conversation, at the time it was completed or before, which would contradict, add to, or alter the written agreement, either in the case of a latent or patent ambiguity, though in either, collateral facts, and the circumstances in which the parties were placed when the agreement was made, may be given in evidence. In the first case, to ascertain something extrinsic, or matter out of the instrument, where there is no ambiguity from the language of it; and in the other, when from defective terms the intention of the parties may not be collected from them. In this agreement, we can see no such ambiguity of expression to make it doubtful, or anything extrinsic connected with it to make it uncertain.

The proofs in this case disclose that Burden's bending lever is a valuable invention; so much so, that the appellants gave to him for the assignment of it, with its improvements, and for the assignment of the horseshoe patent, thirty per cent. upon the net gains of the manufacture of both, with a like interest in the value of all the machinery of both which might be on hand when the contract shall be at an end, and with the same interest in all the real estate, the additions and improvements of it, which shall be bought and made out of the earnings of the assigned machinery; with this further stipulation, upon the part of

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the appellant, that his interest, as they have been stated, should commence six months before the date of his assignments. With such advantages, it cannot be supposed that it was understood by the parties to the agreement of 14th of October, 1845, that Burden meant to put a rival establishment in possession of an interest in his patent equal to that of the appellants, for making brad-headed spike, and that for nothing.

Before concluding, we will remark that there is no proof in the cause to maintain the averment in the answer of the defendants, that they used the bending lever of Burden with his knowledge and that of the appellants, from the date of the agreement until the suit was brought, without any objection or complaint from either of them.

In every point of view which we can take of this case, we think that the defendants have infringed the patent for making hook or brad headed spike with Burden's bending lever. We shall direct the decree of the court below to be reversed, and shall order a perpetual injunction to enjoin the defendants from using the machine with Burden's bending lever in the manufacture of brad-headed spike, and shall remand the case to the court below, with directions for an account to be taken, as is prayed for by the appellants.

Mr. Chief Justice TANEY and Mr. Justice NELSON dissented

ORDER. This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the Northern District of New York, and was argued by counsel; on consideration whereof, it is now here ordered, adjudged, and decreed by this court, that the decree of said Circuit Court in this cause be, and the same is hereby, reversed with costs, and that this cause be, and the same is hereby, remanded to the said Circuit Court, with instructions to enjoin the defendants perpetually from using the improved machinery with the bending lever for

Notes and Citations.

making hook and brad headed spikes, patented to Henry Burden the 2d of September, 1840, and assigned to the complainant as set forth in complainant's bill, and to enter a decree in favor of the complainants, for the use and profits thereof, upon an account to be stated by a master, under the direction of the said Circuit Court, as is prayed for by the complainants, and for such further proceedings to be had therein, in conformity to the opinion of this court, as to law and justice may appertain.

Note :

3. Personal license.

Rubber Co. *v.* Goodyear, 9 Wall. 788.

Oliver *v.* Rumford Chemical Works, 109 U. S. 75.

Hapgood *v.* Hewitt, 119 U. S. 226.

Patent in suit :

No. 1757. Burden, H. September 2, 1840. Spike-Making Machine.

OTHER SUITS ON SAME PATENT :

Troy Iron & Nail Co. *v.* Corning, 1849. 1 Blatch. 467.

Troy Iron & Nail Co. *v.* Odiorne, 1854. 17 How. 72 ; 1 Whit. 967.

Troy Iron & Nail Co. *v.* Corning, 1869. 6 Blatch. 328 ; 3 Fish. 497.

Troy Iron & Nail Co. *v.* Winslow, 1874. 11 Blatch. 513 ; 1 B. & A. 98.

Cited :

IN SUPREME COURT OF UNITED STATES :

Corning *v.* Iron Factory, 1853. 15 How. 451 ; Bk. 14, L. ed. 768.

Notes and Citations.

Oliver *v.* Chemical Works, 1883. 109 U. S. 75 ; Bk. 27, L. ed. 862.

Hapgood *v.* Hewitt, 1886. 119 U. S. 226 ; Bk. 30, L. ed. .

IN CIRCUIT COURTS :

Putnam *v.* Hollender, February, 1881. 19 Blatch. 48 ; 6 Fed. Rep. 882 ; 19 O. G. 1423.

Lilienthal *v.* Washburn, 1881. 8 Fed. Rep. 707.

Gibbs *v.* Hoefner, February, 1884. 22 Blatch. 36 ; 19 Fed. Rep. 323.

Eclipse Windmill Co. *v.* Woodmanse Windmill Co. *et al.*, July, 1885. 24 Fed. Rep. 650 ; 32 O. G. 1605.

IN STATE COURTS :

Buss *v.* Putney, January, 1859. 38 N. H. Rep. 44.

IN TEXT-BOOKS :

2 Abb. Pat. Law, 1886, pp. 98, 119.

Walker on Pats., 1883, pp. 218, 224.

Syllabus.

HORACE C. SILSBY, WASHBURN RACE, ABEL
DOWNS, HENRY HERRION, AND CHARLES D.
THOMPSON v. ELISHA FOOTE.

14 How. 219-227. Dec., 1852.

[Bk. 14, L. ed. 394; 1 Whit. 717.]

Withdrawal of juror. Disclaimer. Nonsuit. Notice of special matter—prior publication. Form of a particular combination claim sustained.

1. Where, after counsel's opening address was begun, a juror was discharged on account of physical disability, *held* that it rested in the discretion of the court whether the withdrawal of the juror should be treated as occasioning a vacancy on a still existing panel, or as breaking up the panel altogether (p. 418).
2. A disclaimer by patentee, stating that the plaintiff himself is the patentee, is a sufficient statement of the extent of his interest, and is admissible as a disclaimer under Act 1837, § 7 (p. 420).
3. Where the court below properly rejected certain evidence, *held* that it was no cause for reversing the judgment that an erroneous reason was given for rejecting it (p. 420).
4. Courts of the United States have no power to order a peremptory nonsuit against the will of the plaintiff (p. 421).
5. Where notice of special matter under the general issue Act 1836, § 15, was given, of matter described in a publication of upwards of 1300 pages, it was held insufficient for failure to specify the page or title where found (p. 421).
6. The notice having failed to allege where the same was used, notice of the publication to prove publisher's prior knowledge is not sufficient under the statute (p. 423).
7. Where a claim did not point out nor designate the particular elements which composed the combination, but declared that the combination was made up of so much of the described machinery as effected a particular result, *held* that the claim

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was a proper one, and that it was a question of fact to be left to the jury which of the described parts were essential to produce the result (p. 424).

[Citations in the opinion of the Court:]

- (1) *Rex v. Edwards*, 4 Taunt. 309, p. 418.
- (2) *Green v. Norville*, 3 Hill (S. C.), 262, p. 418.
- (3) *Doe v. Grimes*, 1 Pet. 469, p. 421.
- (4) *D'Wolf v. Rabaud*, 1 Pet. 476, p. 421.
- (5) *Crane v. Morris*, 6 Pet. 598, p. 421.

THIS case was brought up by writ of error from the Circuit Court of the United States for the Northern District of New York.

The facts are stated in the opinion of the court.

DISCLAIMER ENTERED MARCH 9, 1847.

ELISHA FOOTE, JR., SENECA FALLS, N. Y. LETTERS PATENT DATED MAY 26, 1842, No. 2636. THE SCHEDULE REFERRED TO IN THE LETTERS PATENT AND MAKING PART OF THE SAME.

To all whom it may concern :

Be it known that I, Elisha Foote, Jr., of Seneca Falls, in the county of Seneca and State of New York, have invented a new and useful mode of regulating the heat of stoves and other structures for fires, and I do hereby declare that the following is a full and exact description.

My plan makes the stove or other structure in which it may be used regulate its own heat, and this is effected by applying the expansive and contracting power of a metallic rod by different degrees of heat to the damper of the stove, by which the admission of air thereto is governed, so that when the heat shall rise above any required degree the expansion shall close such damper, and when it shall fall below such degree the contraction shall open it, and thus keep a uniform heat of the requisite intensity.

Considerable variety may exist in the mode of application,

F. Font. Jr,

2. Sheets, Sheet. 1.

Damper.

No. 2636.

Patented May 26. 1842.

Fig. 2.

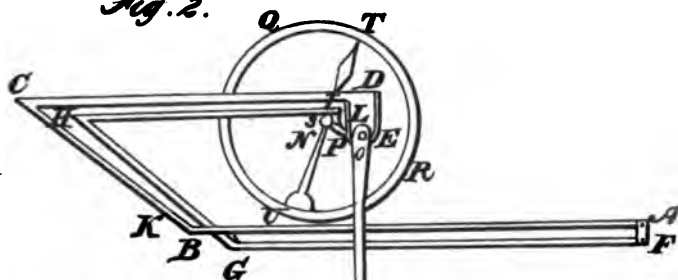


Fig. 3.

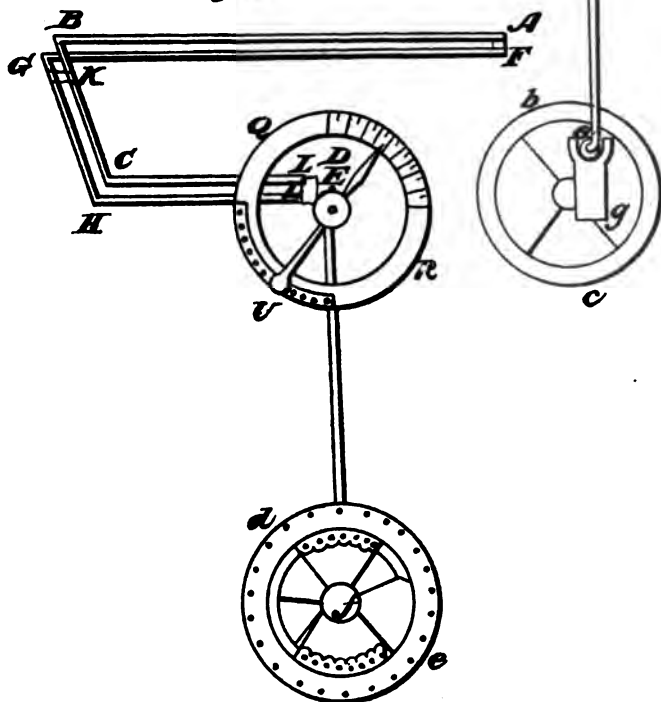
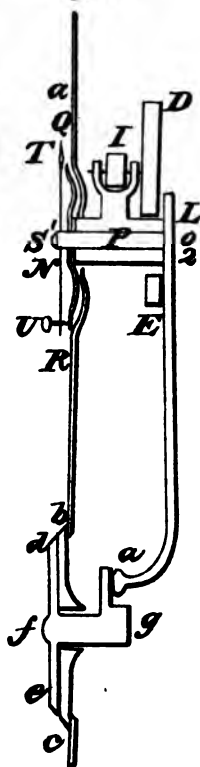


Fig. 1.







E. Foot Jr.,

Damper.

No. 2636.

Patented May 26. 1842.

Fig. 4.

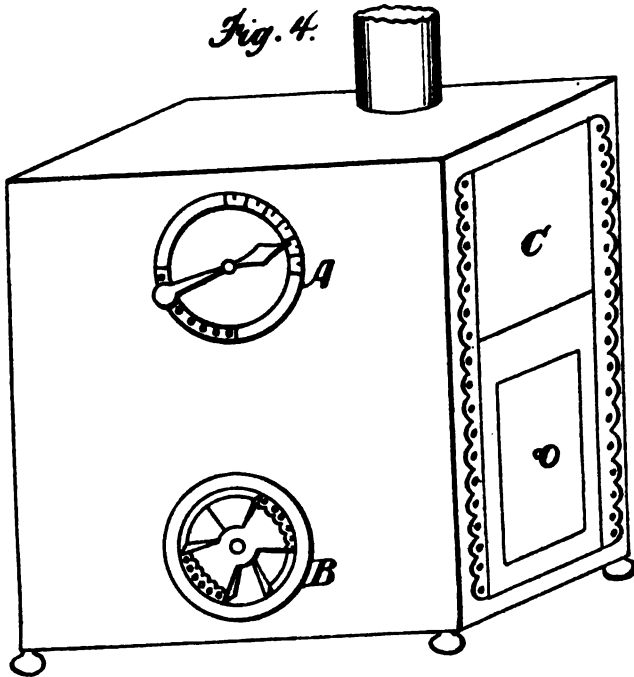
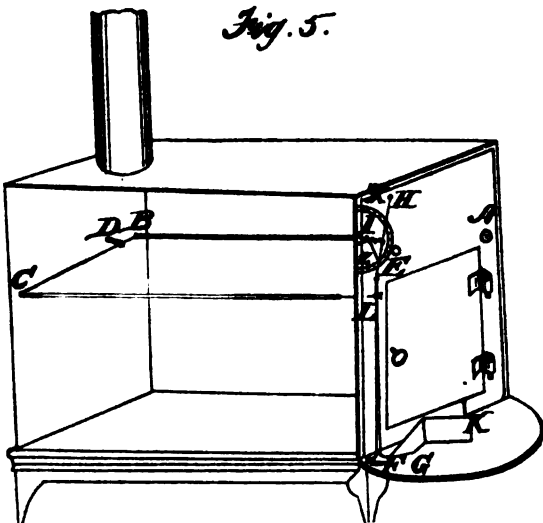


Fig. 5.



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and it may be varied to suit particular circumstances. I have constructed two stoves and applied the regulator as follows :

Fig. 5 represents a common box stove, the front side of which is supposed to be removed ; A B is a brass rod attached firmly at A to the front of the stove by a shoulder on the inside and a nut and screw on the outside. It is not necessarily of brass, but the use of that metal will probably be found the most practicable. It is best made by rolling sheet brass into a rod, so that it shall have two or three thicknesses and be from one to three inches in diameter. The end at B is made flat and riveted to the short arm of the lever B C, so as to make a close joint therewith. B C is made of iron and of sufficient strength to be inflexible. It turns on its fulcrum at D, which is made fast to the back of the stove by a nut and screw and riveted to B C. C L is another brass rod similar in its construction to A B, and attached to the long arm of B C in the same manner. The end at L projects through the front of the stove and is attached by a rivet to another lever, E F.

G K is the damper by which the admission of air to the stove is governed. It is bent so that the hinge at G may stand out a little in front of the stove and give room for the play of the stem F G. The hinge is made in the common form, and the stem is merely a projection or extension of the damper. The end of the stem at F is made round, and fits into a hole made in the lever E F, so as to move easily therein. The lever E F should be of sufficient size and strength to be inflexible, and is attached to its fulcrum at E by a rivet, so as to make a joint therewith. H E is an iron rod. It is attached at H to the stove in any manner that will make it firm, and should either have a joint at H or should be flexible at that point, so that the end E, which constitutes the fulcrum to E F, may be raised or depressed. At I is a screw the head of which is made fast to but turns in the front plate of the stove ; the thread of the screw passes through the rod H E, and by turning the screw the end of the rod E may be raised or depressed at pleasure. It is

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manifest that the expansion of the brass rods pressing against the lever E F will close the damper, and their contraction will open it. If the fulcrum E be raised, it will require a greater degree of expansion, or, in other words, a higher degree of heat to close the damper. If it be depressed a lower degree will close it. A pointer I O is made fast to the head of the screw, so as to turn when the screw turns and show how much the fulcrum E has been raised or depressed in a half revolution of the screw. And it having been found by experiment with a common thermometer how much the heat of the stove is raised or depressed by moving the pointer a given distance, a scale is made and marked upon the front plate of the stove as at X O Z, with as many different degrees of heat as it may be desired to vary the temperature of the stove. And the pointer being placed at any particular degree of heat, the stove will maintain the same with great accuracy; for should the heat rise above the point the expansion of the brass rods will close the damper and check it; or should it fall below the point their contraction will open the damper and let in the full draft of air. It is desirable to make the stove as nearly air-tight as possible, and the door and damper should both closely fit, and I usually put into the stove more fuel than would be necessary in an open stove, and have the same constantly held in check by the damper.

The other and more perfect, although more expensive mode of applying the regulator, is represented by Fig. 4, which is an external view of the stove, showing the face or scale on which the different degrees of heat are marked, and the pointer at A and the damper at B and the door at C, Figs. 1, 2, and 3, are different views of the machinery, in which the same letters represent the same parts in each. Fig. 1 is a sectional view made through the front of the stove, Fig. 2 is a perspective view from the back, and Fig. 3 a perspective view from the front of the stove. A B C D E is a frame of cast-iron made to support the brass rods and other machinery, and to which they are attached. This stove is made of sheet-iron, and a more substantial support

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than that would make for the rods becomes necessary. In a cast-iron stove the frame could probably be dispensed with, suitable projections being cast upon the plate to which to attach the machinery. The frame is made fast to the inside of the top of the stove by screws passing through the top of the stove and entering the frame. The part A B, Figs. 2 and 3, is attached to the back part of the stove, immediately under the flue, B C at one of the ends, and C D at the front, the whole of sufficient strength to be inflexible. At A a little projection or extra thickness is made, to which the brass rod F G is firmly riveted. At K another projection is made, which constitutes the fulcrum to the lever G H ; a hole is made or left in the projection, through which the lever passes and is held by a rivet, so as to turn easily and yet be perfectly firm. D E, Figs. 1, 2, and 3, is a projection of the frame extending down within one or two inches of the front of the stove. It is bored at L 2, and holds one end of the shaft L N 1, the other of which passes through and is held by the front of the stove, as seen in Fig. 1. On L N and at about the middle of it is a projection I P, Fig. 1, from one to three inches in length, with two prongs at the top, within which the brass rod I H is held by a pivot, so as to make a close joint with it. The brass rods and the lever G H are made in the same way, and are attached to each other in the same manner as is described in the stove first mentioned. The effect of the expansion and contraction of the brass rods is to move the shaft L N back and forth by operating on the projection I P, and the ends in which it rests in the frame and in the front of the stove are turned so as to permit it to move easily therein. Attached to the shaft on the outside of the stove is the face Q R, on which the different degrees of heat are marked, seen also in Fig. 4 at A. It is made solid with the shaft or is firmly attached to and turns with it.

The shaft is made or bored hollow, as represented in Fig. 1, so as to admit to pass through the centre of it the pivot O S, which is turned and made to fit and move easily within the shaft. At the end S is firmly attached the pointer T U, and at the end O is firmly attached the rod O a, which, pass-

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ing down the front side of the stove and within the same, moves the damper when variations of heat change the lengths of the brass rods. The face may be made of brass or other material, to suit the taste of the maker. It is usually made circular, having on the upper side the different degrees of heat found and marked, as first described, and on the lower, corresponding with the different degrees, small holes, into which a pin on the pointer at U may be inserted and connect the two. The pointer may be made of steel and polished; passing through the lower end is a screw at U in Fig. 1, on the end of which is the small pin fitted to enter the holes on the face; on the other end of the screw is a knob, which serves as a handle to turn the pointer or to unscrew and detach the pointer from the face. If attached, the brass rods affect and move the damper below; if detached, they have no effect upon it.

The damper is made in the common form of two plates moving one upon the other, with orifices in each, so that in one position both shall be closed and in another both opened. The inside plate is represented by *b c*, seen wholly in Fig. 2 and partly in Fig. 3. It is made thicker near the centre, and is bored through, as is represented in Fig. 1, to admit and hold the stem to the outside plate; *d e* represents the outside plate, seen wholly in Fig. 3, partly closed. At *f g* is its stem attached to its centre and passing through the inside plate. The faces to both should be ground or turned as well as the stem, so as to move easily and closely one on the other. On the end of the stem at *g* is made or firmly attached the projection *g a*, which ends in two prongs, as is shown in Fig. 2. The end of the rod *O a* terminates, as is seen at *a* in Figs. 1 and 2, in a circular plate of from one to two inches in diameter, and fitted to move easily and closely within the two prongs to the stem of the damper. The object of this arrangement is that if, for instance, the closing of the damper should fail to check the heat, the rod would be disconnected from the damper and pass on without injury to the machinery, and when it returns it would catch the upper prong and connect itself again with the damper; or should a

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high heat be desired, the damper may be set open and the rod at some distance from it, so that it shall require a great degree of expansion before the rod would reach the damper to close it ; or should it be desired to change from a high to a low degree of heat, the damper may be closed and the rod set so that a great contraction will have to take place before it will reach the damper to open it.

The rod O *a* should have sufficient width to be inflexible. The stove governs its heat the same as the one first described.

What I claim as my invention, and desire to secure by letters patent, is the application of the expansive and contracting power of a metallic rod by different degrees of heat to open and close a damper which governs the admission of air into a stove or other structure in which it may be used, by which a more perfect control over the heat is obtained than can be by a damper in the flue.

I also claim as my invention the mode above described of setting the heat of a stove at any requisite degree by which the different degrees of expansion are required to open or close the damper.

I also claim the combination above described by which the regulation of the heat of a stove or other structure in which it may be used is effected, and I also claim as my invention the mode above described of connecting the action of the metallic rods with the damper, so that the same may be disconnected when the damper shall have closed and the heat shall continue to rise, etc.

ELISHA FOOTE, JR.

Witnesses :

ANSON ATWOOD,
J. H. GODDARD.

It was argued by *Mr. Seward*, for the plaintiffs in error, and by *Mr. Foote*, in proper person, for the defendant in error.

Mr. Justice CURTIS delivered the opinion of the court.

This is an action on the case for the violation of a patent-

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right granted to the defendant in error on the 26th day of May, 1842, for "a new and useful improvement in regulating the draft of stoves." On the trial in the Circuit Court for the Northern District of New York, the defendants took exceptions to the rulings of the district judge who presided at the trial, and have brought the case here by a writ of error.

The first exception shows the following facts: After the counsel for the plaintiff had begun his opening address to the jury, a juror became ill, applied to the court to be discharged, and was discharged from the panel on account of physical inability to sit on the residue of the trial. Thereupon the court ordered another juror to be drawn and sworn, and the panel being thus full, the trial proceeded, and the plaintiff's counsel concluded his address. The plaintiff assented to this proceeding; the defendant objected, and excepted to the order of the court.

We think it was not erroneous for the presiding judge to treat the physical inability of the juror as simply creating a vacancy on the panel, and proceeding to fill it in the usual way, by having a twelfth juror drawn and sworn. We understand it to have been the practice of the courts of the State of New York so to treat such a withdrawal of a juror, when the presiding judge in his discretion has thought proper to do so, and under the act of July 20, 1840, (5 Stat. at Large, 394,) the Circuit Court might properly conform to that practice. Of course it must be confined to cases like the present, in which it is apparent the party objecting received no injury. The defendant cannot be supposed to have been prejudiced by the failure of the twelfth juror to hear a part of the opening argument for the plaintiff, no evidence having been given, and he did not make known to the court that he desired to attempt to exercise any right of challenge of the other eleven jurors, to which he might have been restored if any cause existed, and the panel had been treated as broken up. *Rex v. Edwards*, 4 Taunt. 309; *Green v. Norville*, 3 Hill, (S. C.,) 262. In such a case, we think it rested in the discretion of the court

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whether the withdrawal of a juror should be treated simply as occasioning a vacancy on a still existing panel, or as breaking up the panel altogether ; and it being a matter of discretion, no error could be assigned upon it, even if there were reason to believe, what in this case there is not, that the discretion was not wisely exercised.

The next exception was to the refusal of the judge to allow the defendant to put in evidence to the jury an indorsement on the original letters patent. The plaintiff had previously offered in evidence a duly certified copy of the following disclaimer :

“To the Commissioner of Patents : The petition of Elisha Foote, of Seneca Falls, in the county of Seneca, and State of New York, respectfully represents :

“That your petitioner obtained letters patent of the United States for an improvement in regulating the draft of stoves, which letters patent are dated on the 26th day of May, 1842. That he has reason to believe, that, through inadvertence and mistake, the claim made in the specification of said letters patent—in the following words, to wit : ‘What I claim as my invention, and desire to secure by letters patent, is the application of the expansive and contracting power of a metallic rod, by different degrees of heat, to open and close a damper which governs the admission of air into a stove, or other structure in which it may be used, by which a more perfect control over the heat is obtained than can be by a damper in the flue’—is too broad, including that of which your petitioner was not the first inventor.

“Your petitioner, therefore, hereby enters his disclaimer to so much of said claim as extends the application of the expansive and contracting power of a metallic rod, by different degrees of heat, to any other use or purpose than that of regulating the heat of a stove, in which such rod shall be acted upon directly by the heat of the stove or the fire which it contains ; such disclaimer is to operate to the extent of the interest in said letters patent vested in your petitioner, who has paid ten dollars into the treasury of the

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United States, agreeably to the act of Congress in that case made and provided.

“ELISHA FOOTE.

“Witnesses : MORRIS NEWTON, EDWIN L. BALTINK.”

The defendants objected, upon the ground that the instrument did not state “the extent of his interest in such patent.” 5 Stat. at Large, 193, sec. 7. The court sustained the objection, and refused to permit the instrument to be read by the plaintiff as a disclaimer. At a subsequent stage of the trial, the defendant offered to read to the jury a copy of this instrument, indorsed on the original letters patent, not as a disclaimer under the act of Congress above referred to, but as a confession by the plaintiff that he was not the original and first inventor of a part of the thing patented. The plaintiff objected, because the indorsement on the letters patent was not in his handwriting, nor signed by him, and the defendants had already caused a duly certified copy of the same instrument to be rejected. The court sustained the objection.

We are of opinion the court erred in not allowing the plaintiff to put this instrument in evidence as a disclaimer, under the seventh section of the act of March 3, 1837. 5 Stat. at Large, 193. This section authorizes not only the patentee, but his executors, administrators, and assigns, whether of the whole or of a sectional interest in the patent, to make disclaimer, “stating therein the extent of his interest in such patent.” This instrument states that the plaintiff was himself the patentee, and having thus shown a grant to himself of the whole interest, it is silent respecting a transfer of any part of it. The fair implication is that he still owns the whole ; and this implication is sufficient, without an express declaration that he had parted with no interest. It has been argued that the words, “such disclaimer is to operate to the extent of the interest vested in your petitioner,” imply that he had not the whole title. But the interest previously described as vested in him was the entire title as patentee, and this reference to that in-

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terest, accompanied by a declaration that the disclaimer was intended to operate upon it to its whole extent, strengthens rather than weakens the implication that he owned the whole patent. This being so, it follows, that when the defendants offered to put a copy of the instrument in evidence, not as a disclaimer, but as a confession of the defendant to prejudice his rights, it was properly rejected. It is true, the rejection of the evidence was placed on a different ground by the judge below. But if the defendants were not deprived of any right by the rejection of the evidence, it is not cause for reversing the judgment that an erroneous reason was given for rejecting it; and they were not deprived of any right if the paper was not legal evidence upon the particular point for which alone it was offered, or if its reception, accompanied by proper instructions to the jury concerning its legal effect, must necessarily have assisted the opposite party.

The next exception is to the refusal of the judge to order a nonsuit. But as it has been repeatedly decided that the courts of the United States have no power to order a peremptory nonsuit against the will of the plaintiff, it is not necessary to examine the grounds of the motion. *Doe v. Grymes*, 1 Pet. 469; *D'Wolf v. Rabaud*, 1 Pet. 476; *Crane v. Morris*, 6 Pet. 598.

In the course of the trial, the defendants offered to put in evidence two articles contained in *Ure's Dictionary of Arts, Manufactures, and Mines*, to prove that the patent declared on was not valid. The plaintiff objected, and the evidence was excluded. It is incumbent on the defendants to show their right to introduce this evidence. To do so, they rely on the fifteenth section of the act of July 4, 1836. 5 Stat. at Large, 123. This section enables the defendant, in any action on the case founded on letters patent, to give in evidence, under the general issue, any special matter of which notice in writing may have been given to the plaintiff or his attorney, thirty days before the trial, tending to prove, among other things, that the patentee was not the original and first inventor of the thing patented, or of some

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substantial and material part thereof, claimed as new, or that it had been described in some public work anterior to the supposed discovery thereof by the patentee ; and whenever the defendant relies, in his defence, on the fact of a previous invention, knowledge, or use of the thing patented, he is required to state, in his notice of special matter, the names and places of residence of those whom he intends to prove possessed a prior knowledge of the thing, and where the same had been used. The notice given in this case was as follows :

“ The patentee was not the original and first inventor or discoverer of a substantial and material part thereof, claimed as new ; that it had been described in a public work, called Ure’s Dictionary of Arts, Manufactures, and Mines, anterior to the supposed invention thereof by the patentee ; and, also, had been in public use and known before that time, and used by Andrew Ure, of London, the late M. Bonnemair, of Paris, and George H. McClary, of Seneca Falls, New York.”

Ure’s Dictionary contains upward of thirteen hundred pages, and the articles which the defendants offered to read were entitled “Thermostad” and “Heat Regulator.” The first question, is whether this was a sufficient notice of the special matter, tending to prove that the thing patented, or some substantial part thereof, claimed as new, had been described in a printed publication. We are of opinion it was not. The act does not attempt to prescribe the particulars which such a notice shall contain. It simply requires notice. But the least effect which can be allowed to this requirement, is that the notice should be so full and particular as reasonably to answer the end in view. This end was not merely to put the patentee on inquiry, but to relieve him from the necessity of making useless inquiries and researches, and enable him to fix with precision upon what is relied on by the defendants, and to prepare himself to meet it at the trial. This highly salutary object should be kept in view, and a corresponding disclosure exacted from the defendant of all those particulars which he must

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be presumed to know, and which he may safely be required to state, without exposing him to any risk of losing his rights. Less than this would not be reasonable notice, and, therefore, would not be such a notice as the act must be presumed to have intended.

Now, we do not perceive that the defendants would be exposed to the risk of losing any right, by requiring them to indicate, in their notice, what particular things, described in the printed publication, they intended to aver were substantially the same as the thing patented. This they might have done, either by reference to pages or titles, and perhaps in other ways; for the particular manner in which the things referred to are to be identified must depend much upon the contents of the volume, and their arrangement. It has been urged that a defendant may not have access to the book in season for the notice. But it must be remembered that some considerable time before it is necessary to give such a notice the defendant has begun to use the thing patented, which, *primâ facie*, he has no right to use, and it would seem to be no injustice or hardship to expect him, before he begins to infringe, to ascertain that the patentee's title is not valid, and if its invalidity depends on what is in a public work, that he should inform himself what that work contains, and consequently how to refer to it. We do not think it necessary so to construe this act, designed for the benefit of patentees, as to enable the defendant to do what we fear is too often done—to infringe first, and look for defences afterward.

Nor does a notice, that somewhere, in a volume of thirteen hundred pages, there is something which tends to prove that the thing patented, or some substantial and material part thereof, claimed as new, had been described therein, relieve the patentee from the necessity of making fruitless researches, or enable him to fix with reasonable certainty on what he must encounter at the trial. Upon this ground, therefore, the exception cannot be supported.

But it is further urged that the book ought to have been admitted as evidence; that Andrew Ure, of London, had a

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prior knowledge of the thing patented. This view cannot be sustained ; for although the name of Andrew Ure, of London, is contained in the notice of persons who are alleged to have had this prior knowledge, yet the defendants have not brought themselves within the act of Congress, because the notice does not state " where the same was used " by Andrew Ure. Besides, inasmuch as the same section of the statute provides that a prior invention in a foreign country shall not avoid a patent, otherwise valid, unless the foreign invention had been described in a printed publication, the defendants are thrown back upon that clause of the act which provides for that defence, arising from a printed publication, which has already been considered.

The next exception was to the charge of the presiding judge to the jury. The defendants requested the judge to charge the jury—

3. That it was erroneous to consider as constituent parts of the combination claimed by the plaintiff only those points which were requisite to the operation of opening and closing the damper, but that, on the contrary, the jury must consider as constituent parts of the combination all the parts of the machine, as described in the specification, by which the regulation of the heat of a stove, or the other structures, is effected.

4. That the index is a constituent part of the combination patented by the plaintiff.

5. That the detaching process of the lever is a constituent part of the combination patented by the plaintiff.

6. That the pendulum is a constituent part of the combination.

And, in this connection,—

7. That if the defendants do not use all the constituent parts of the combination patented by the plaintiff, a verdict must be rendered for the defendants.

As to the 2d, 3d, 4th, 5th, 6th, and 7th of the instructions prayed for by the defendants, the judge charged the jury, that it was true, as insisted by the defendants' counsel,

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that the third article of the summary of the plaintiff's specification, on which alone, if at all, he was entitled to recover, was for a combination ; and unless it appeared by the evidence that the defendants had used all the parts of the plaintiff's stove embraced in such combination, he was not entitled to recover. That the combination claimed in the article in question was of such parts of the mechanism described in the specification as are necessary to regulate the heat of the stove ; and unless it appeared by the evidence that some parts of the mechanism not shown to have been used by the defendants were necessary to perform that office, or that, according to the just construction of the specification, such parts were intended to be claimed by the plaintiff as a part of such combination, they are not to be considered as embraced within it. That inasmuch as, by the fourth article of the plaintiff's summary, he made a distinct and separate claim to what had been called the detaching apparatus, there seemed to be good reason to infer that it was not his intention to claim this in the third article as a part of the combination therein mentioned. But the judge observed, that the question relative to the extent of the combination had been treated by the defendants' counsel as a question of fact, and he had no disposition to withdraw it from the consideration of the jury ; and he therefore submitted it to the jury to decide, from the evidence, whether the parts of the mechanism described in the specification, which were not shown to have been used by the defendants, were necessary to regulate the heat of the stove, and instructed the jury that if they should so find, the defendants would be entitled to a verdict. And the judge refused to charge otherwise, in relation to such instructions, or any of them.

To this charge and refusal of the judge, as the 2d, 3d, 4th, 5th, 6th, and 7th of the instructions prayed by the defendants, the defendants' counsel then and there excepted.

The substance of the charge is, that the jury were instructed by the judge that the third claim in the specification was for a combination of such parts of the described

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mechanism as were necessary to regulate the heat of the stove; that the defendants had not infringed the patent, unless they had used all the parts embraced in the plaintiff's combination; and he left it to the jury to find what those parts were, and whether the defendants had used them.

We think this instruction was correct. The objection made to it is, that the court left to the jury what was matter of law. But an examination of this third claim, and one of the defendants' prayers for instruction, will show that the judge left nothing but matter of fact to the jury. The construction of the claim was undoubtedly for the court. The court rightly construed it to be a claim for a combination of such of the described parts as were combined and arranged for the purpose of producing a particular effect, namely, to regulate the heat of a stove. This was in accordance with the defendants' third prayer. But the defendants also desired the judge to instruct the jury that the index, the detaching process, and the pendulum were constituent parts of this combination. How could the judge know this as matter of law? The claim is in these words: "I also claim the combination, above described, by which the regulation of the heat of the stove, or other structure in which it may be used, is effected." The writing which the judge was to construe calls for all such elements of the combination as are actually employed to effect the regulation of the heat, according to the plan of the patentee, described in the specification, and it therefore became a question for the jury, upon the evidence of experts, or an inspection by them of the machines, or upon both, what parts described did in point of fact enter into and constitute an essential part of this combination. When a claim does not point out and designate the particular elements which compose a combination, but only declares, as it properly may, that the combination is made up of so much of the described machinery as effects a particular result, it is a question of fact which of the described parts are essential to produce that result; and to this ex-

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tent, not the construction of the claim, strictly speaking, but the application of the claim, should be left to the jury. The defendants themselves so treat this matter in their third prayer, and we are satisfied the judge did not err in so treating it.

The defendants' counsel exhibited to the court the models of the machines of the defendants and the plaintiff, for the purpose of satisfying the court the jury must have understood they were at liberty to construe the claim, and that they did in truth so construe it, as to exclude from the combination claimed by the plaintiff what is called the detaching process. But we can draw no such inference from an examination of those models. And while we do not think it proper to express any opinion on what is really a matter of fact, yet we think it pertinent to say that an examination of the models has satisfied us that a jury might fairly come to the conclusion that the defendants did use a detaching process, not substantially different from the plaintiff's, and occupying in their combination the same place, and answering substantially the same purpose, as the plaintiff's detaching process does in his combination; and therefore we can draw no inference such as is contended for.

We have examined all the exceptions, and no one being found tenable, the judgment is affirmed.

AFFIRMED.

Mr. Justice McLEAN dissented.

ORDER. This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the Northern District of New York, and was argued by counsel; on consideration whereof, it is now here ordered and adjudged by this court, that the judgment of the said Circuit Court in this cause be, and the same is hereby, affirmed with costs, and interest until the same is paid, at the same rate per annum that similar judgments bear in the courts of the State of New York.

Notes and Citations.

Notes :**2. Act 1837, § 7 ; Act 1870, § 54 ; R. S., § 4917.**

Disclaimer—constructive :

- Miller v. Brass Co., 104 U. S. 350.
- Sargent v. Hall, &c., Co., 114 U. S. 63.
- Sutter v. Robinson, 119 U. S. 530.

Diligence in filing :

- O'Reilly v. Morse, 15 How. 62 [p. 483, *post*].
- Seymour v. McCormick, 19 How. 96.
- Silsby v. Foote, 20 How. 378 (costs).
- Smith v. Nichols, 21 Wall. 112.
- Dunbar v. Myers, 94 U. S. 187.
- Gage v. Herring, 107 U. S. 640.
- Yale Lock Co. v. Sargent, 117 U. S. 536.

Disclaimer in original—effect on reissue :

- Leggett v. Avery, 101 U. S. 256.
- Goodyear Dent. Vul. Co. v. Davis, 102 U. S. 222.
- James v. Campbell, 104 U. S. 356.
- Beecher M'fg Co. v. Atwater M'fg Co., 114 U. S. 523.

Disclaimer in reissue—effect :

- McMurray v. Mallory, 111 U. S. 97.
- Elastic Fabrics Co. v. Smith, 100 U. S. 110 (in divisional reissue).

Disclaimer in foreign patent—effect on domestic :

- Ashcroft v. Railroad, 97 U. S. 189.

As admission in construing patent :

- Packing Company Cases, 105 U. S. 566.

Its purpose :

- Cartridge Co. v. Cartridge Co., 112 U. S. 624.
- Dunbar v. Myers, 94 U. S. 187.

5. Act 1790, § 6 ; Act 1793, § 6 ; Act 1836, § 15 ; Act 1870, § 61 ; R. S., § 4920.

Notes and Citations.

Definiteness of notice of special matter :

Evans *v.* Eaton, 3 Wheat. 454 [4 Am. & Eng. 16].

O'Reilly *v.* Morse, 15 How. 62 [p. 483, *post*].

Teese *v.* Huntingdon, 23 How. 2.

Phillips *v.* Page, 24 How. 164.

Agawam Co. *v.* Jordan, 7 Wall. 583.

Wise *v.* Allis, 9 Wall. 737.

Railroad Co. *v.* Dubois, 12 Wall. 47.

Roemer *v.* Simon, 95 U. S. 214.

Bates *v.* Coe, 98 U. S. 31.

Craig *v.* Smith, 100 U. S. 226.

Machine Co. *v.* Keith, 101 U. S. 479.

Loom Co. *v.* Higgins, 105 U. S. 580.

Patent in suit :

No. 2636. Foote, E. May 26, 1842. Cooking Stove.

OTHER SUITS ON SAME PATENT :

Silby *v.* Foote. 20 How. 290, 378.

✓ Foote *v.* Silsby, 1849. 1 Blatch. 445 ; Fish. Pat. Rep. 268.

Foote *v.* Silsby, 1850. 1 Blatch. 542 ; Fish. Pat. Rep. 391.

Foote *v.* Silsby, 1850. 1 Blatch. 545 ; Fish. Pat. Rep. 357.

Foote *v.* Silsby, 1851. 2 Blatch. 260.

Foote *v.* Silsby, 1856. 3 Blatch. 507.

Cited :

IN SUPREME COURT OF UNITED STATES :

Silby *v.* Foote, 1857. Dis. Opin. 20 How. 378 ; Bk. 15, L. ed. 953.

Castle *v.* Bullard, 1860. 23 How. 172 ; Bk. 16, L. ed. 424.

Notes and Citations.

Cook v. Burnley, 1867. 11 Wall. 659 ; Bk. 20, L. ed. 84.
Blanchard v. Putnam, 1869. 8 Wall. 420 ; Bk. 19, L. ed. 433.
Smith v. Nichols, 1875. 21 Wall. 112 ; Bk. 22, L. ed. 566.
Electric Signal Co. v. Hall Signal Co., 1885. 114 U. S. 87 ; Bk.
29, L. ed. 96.

IN CIRCUIT COURTS :

Whipple v. Middlesex Co., October, 1859. 4 Fish. 41.
Tuck v. Bramhill, April, 1868. 6 Blatch. 95 ; 3 Fish. 400.
Crompton v. Belknap Mills, May, 1869. 3 Fish. 536.
Hoe v. Knapp, March, 1886. 27 Fed. Rep. 204.

IN TEXT-BOOKS :

2 Abb. Pat. Law, 1886, pp. 208, 242, 436.
Walker on Pats., 1883, pp. 126, 143, 253, 325, 355.
Curtis on Pats., 4th ed., §§ 149, 377.

Syllabus.

ELISHA BLOOMER, APPELLANT, v. JOHN W. McQUEWAN, ALLEN R. McQUEWAN, AND SAMUEL DOUGLASS, PARTNERS UNDER THE NAME OF McQUEWAN & DOUGLASS.

14 How. 539-563. Dec., 1852.

[Bk. 14, L. ed. 532; 1 Whit. 730.]

Extension. Right to continue use. Purchaser of interest in patent and of patented article distinguished. Particular extension by special act construed. Due process of law.

1. To determine the right to use a patented article during a second extension granted by special act, the act must be construed in view of the general patent law, and the special acts passed from time to time in favor of particular patentees. They are statutes in *pari materia*, and must be construed together (p. 446).
2. The interest of a purchaser of the exclusive privilege of making or vending for use the patented article, is a share in the monopoly, and terminates at the time limited for its continuance by the law which created it (p. 447).
3. But the purchaser of the patented implement for use derives no right from the act of Congress; it becomes his private property, protected not by the laws of the United States, but by the laws of the State in which it is situated, and subject to State taxation (p. 448).
4. Neither does it depend upon the term granted patentee (p. 449).
5. Under the general law in force (Act 1836) when this special act (Woodworth extension, 1845) was passed, a party who had purchased the right to use a planing machine during the period to which the patent was first limited was entitled to continue to use it during the extension authorized by that law, nothing to the contrary appearing in the special act (p. 449).
6. Where purchaser's right to construct and use the patented device is purchased and paid for without limitation of time, it

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becomes a property right, protected by the 5th Amendment to the Constitution. A special act depriving them of the right to such use could not be regarded as due process of law (p. 453).

[Citations in the opinion of the Court :]

(1) *Evans v. Eaton*, 3 Wheat. 518 ; 4 Am. & Eng. 16, pp. 447, 449.

(2) *Wilson v. Rousseau*, 4 How. 688 ; 4 Am. & Eng. 436, pp. 447, 449.

(3) *Wilson v. Sandford*, 10 How. 99, p. 122, *ante*, p. 448.

[In Dissenting Opinion :]

(4) *Evans v. Jordan & Morehead*, 9 Cranch. 199 ; 4 Am. & Eng. 7, p. 462.

(5) *Wilson v. Rousseau*, 4 How. 688 ; 4 Am. & Eng. 436, p. 455.

(6) *Evans v. Eaton*, 3 Wheat. 454 ; 4 Am. & Eng. 16, p. 468.

Mr. Justice CURTIS, having been of counsel, did not sit on the trial of this cause ; and Mr. Justice WAYNE was absent.

THIS was an appeal from the Circuit Court of the United States for the Western District of Pennsylvania, sitting as a court of equity.

It was a bill filed by Bloomer, who claimed under Wilson, the assignee of Woodworth's planing-machine. The whole of Wilson's title is set forth in the report of the case of *Wilson v. Rousseau*, 4 Howard, 646 [4 Am. & Eng. 436], as is also the act of Congress passed on the 26th of February, 1845, (4 How. 662 [4 Am. & Eng. 436],) extending the patent for seven years from the 27th of December, 1849.

McQuewan claimed through two *mesne* assignments from Woodworth and Strong, by virtue of a license granted on the 8th of November, 1833.

The bill and answer covered a great deal of ground, which need not be noticed in this report.

Amongst other averments was this : that the license conveyed no right to use the machine during the extension for seven years from 1849, under the act of Congress passed in 1845 ; and the decision of the court being in favor of the defendants below upon this point, it is unnecessary to state all the points and arguments upon other matters.

Argument of counsel.

The court below were divided in opinion, and the bill was of course dismissed. Bloomer appealed to this court.

It was argued by *Mr. Keller* and *Mr. St. George T. Campbell*, for the appellant, and *Mr. Dunlop*, for the appellees.

The fourth point made by the counsel for the appellant was as follows :

IV. Whether the licensee of a right to use the patented machine for the original term of the patent is entitled to continue the use of the same during the extension by Congress.

The facts in this regard, appearing by the record, are—

1. That Collins and Smith, who were assignees for the first term of the district in question, granted to Barnet the right for the city of Pittsburg and Alleghany county, “to construct and use, during the residue of the said terms of fourteen years,” the patented machine ; and by the same assignment covenanted “not themselves to construct and use,” nor to give license to any other person than Barnet “during the terms aforesaid” ; and Barnet covenanted not to construct more than fifty machines “during the terms aforesaid.”

(The word “terms” is used in the plural, as it will be perceived by the assignment that the grantors were the owners also of the Emmons patent, and that the limitation of his right applied to the duration of both.)

2. Barnet assigns all his “right, title, interest, and claim of the within patent for Woodworth’s planing-machine to G. Warner and John W. McQuewan, their heirs and assigns,” except seven rights previously given.

3. It seems to have been granted, below, that Warner had assigned his license to McQuewan, and McQuewan to the two co-defendants, and that the machine was made during the first term of the patent ; hence arises the question, have the appellees the right to continue its use during the congressional extension ?

For the appellants, it is submitted—

Argument of counsel.

1. That this question, and the principles upon which it must be decided, have been already passed upon by this court.

In *Wilson v. Rousseau*, 4 Howard, the question was of the right of the licensee to continue the use of the machine during the extension by the Commissioner. The court were divided in opinion. In that delivered as their judgment, the right of the licensee to the continued use was put exclusively upon the terms of the eighteenth section, which were, "the benefit of such renewal shall extend to assignees and grantees of the right to use the thing patented, to the extent of their respective interests therein." Without that provision, it is conceded, by the learned judge, in delivering the opinion of the court, "that all the rights of assignees or grantees, whether in a share of the patent or to a specified portion of the territory held under it, terminate at the end of the fourteen years, and become reinvested in the patentee by the new grant."

"From that date he is again possessed of 'the full and exclusive right and liberty of making, using, and vending to others the invention,' whatever it may be, not only portions of the monopoly held by assignees and grantees as subjects of trade and commerce, but the patented articles or machines throughout the country, purchased for practical use in the business affairs of life, are embraced within the operation of the extension. This latter class of assignees and grantees are reached by the new grant of the exclusive right to use the things patented. Purchasers of the machines, and who were in the use of them at the time, are disabled from further use immediately, as that right became vested exclusively in the patentee. Making and vending the invention are prohibited by the corresponding terms of his grant."

And the learned judge, in expressing the opinion of the court, further declared that the provision in the eighteenth section, above referred to, was "intended to restore or save to them," (those in use of the thing patented at the time of the renewal,) "that right which, without the clause, would have been vested again exclusively in the patentee."

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And the learned judges who dissented from the opinion of the court did so upon the ground that even this clause of the eighteenth section did not confer upon the licensees the right claimed in their behalf.

Thus, it is clear that the extension of a patent by lawful authority revests in the patentee every right originally possessed by him, and that unless the law, by virtue of which it is extended, contains a provision in favor of licensees or assignees, their right to use ends with the term of their license. (This, of course, does not apply to cases where the patentee has covenanted to grant any subsequently-acquired extensions. None such is pretended in this case.)

Applying, then, these principles to the act extending this patent, (February 26, 1845,) it will be seen that it contains no such provision as is to be found in the eighteenth section of the act of 1836; and that, therefore, in accordance with the opinion of all the judges, the entire right was re-invested in the patentee.

The general power to renew and extend a patent is conferred by the eighteenth section of the act of 1836, which, after providing for the proof of the prerequisites, declares that "it shall be the duty of the Commissioner to renew and extend the patent, by making a certificate thereon of such extension for the term of seven years from and after the expiration of the first term."

The act in question provides that the patent "be, and the same is hereby, extended for the term of seven years from and after the 27th of December, 1849, and the Commissioner of Patents is hereby directed to make a certificate of such extension, in the name of the administrator of William Woodworth, and append an authenticated copy thereof to the original letters patent," &c.; the words being substantially the same as these, judicially construed, and the intention being still further marked, as well by the omission of any provision for the licensees as by the express insertion of the name of the party in whose favor the extension was made, and to whose benefit it was intended to inure.

Argument of counsel.

The principles upon which the judgment in *Wilson v. Rousseau* is founded, are, it is submitted, if possible, more conclusively applicable to the case of such an extension by Congress than to one made by the Commissioner.

Such, too, has been the application made of them by many of the learned judges in their circuits. By Mr. Justice Nelson, July 22, 1850, in *Gibson v. Gifford* [1 Blatch. 529], in a written opinion delivered by him; by the late Mr. Justice Woodbury, July, 1850, in *Mason v. Tallman*, also in a written opinion; and by Mr. Justice McLean, October 22, 1850, in *Bloomer v. Stately* [Stolley].

The opinion of Mr. Justice Woodbury refers to similar decisions made by the late Justice McKinley, by Judge Ware, and by Judge Sprague.

It may be proper, with reference to the argument founded upon the supposed intention of Congress, (not declared in the words of the act, as already shown,) to permit a continued use during the congressional extension of machines licensed under the original term, to annex a list of the patents extended by special acts, and thus to refer to the provisions in each, expressly declaring, where such was intended, the existence of such right, and providing for its mode of exercise or enjoyment.

The absence of such provision in the act of 1845 must, it is submitted, conclusively negative any idea of such intention, even if the judicially decided effect of such an act did not render a reference to such a source for interpretation unnecessary.

I. January 21, 1808, to Oliver Evans, 6 Stat. at Large, 70,—with special provision for parties then using invention. Under this act. the cases of *Evans v. Jordan*, 9 Cranch, 199 [4 Am. & Eng. 7]. and *Evans v. Eaton*, 3 Wheat. 454 [4 Am. & Eng. 16], were decided.

II. March 3, 1809, to Amos and William Whittemore, 6 Stat. at Large, 80,—without provision for licensees.

III. February 7, 1815, Oliver Evans, (steam-engine,) 6 Stat. at Large, 147,—with proviso that no greater sum should be charged for constructing and using than

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was during prior term, and subject to existing Patent Laws.

IV. March 3, 1821, Samuel Parker, 6 Stat. at Large, 262,—subject to provision of then existing Patent Laws.

V. March 2, 1831, John Adamson, 6 Stat. at Large, 458,—without proviso or reference to existing laws.

VI. March 3, 1831, Samuel Browning, 6 Stat. at Large, 467,—without proviso or reference to existing laws.

VII. May 19, 1832, Jethro Wood, 6 Stat. at Large, 486,—proviso in favor of licensees that the price shall not be advanced.

VIII. June 30, 1834, Thomas Blanchard, [6] Stat. at Large, 589,—with special proviso in favor of licensees. (It may not be improper to refer to the opinion of B. F. Butler, Attorney-General, May 25, 1837, that under this act the United States had no right to use, except on the conditions of the original grant.)

IX. March 3, 1835, Robert Eastman, 6 Stat. at Large, 613,—without proviso or reference to existing laws.

X. July 2, 1836, James Barron, 6 Stat. at Large, 678,—extending two patents, without proviso in reference to existing laws, and the other with provisos in reference to licensees.

XI. February 6, 1839, Thomas Blanchard, 6 Stat. at Large, 748,—with proviso in favor of licensees.

XII. March 3, 1845, William Gale, 6 Stat. at Large, 895,—authorizing renewal of patent under eighteenth section of act of 1836, although it had expired, and subject to the restrictions of that act.

XIII. March 3, 1843, Samuel K. Jennings, 6 Stat. at Large, 899,—directing Commissioner to renew patent, subject to provisions of existing laws.

XIV. February 26, 1845, William Woodworth, 6 Stat. at Large, 936,—extending patent. Commissioner to certify to the extension in the name of the administrator. No proviso in favor of licensees, or reference to existing laws.

XV. February 15, 1847, Thomas Blanchard, 9 Stat. at

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Large, 683,—with proviso in favor of licensees, on terms to be agreed or adjusted by the Circuit Court, &c.

The point that, by an accidental error in the bill, the word "fourteen" was inserted, instead of "twenty-eight," is not deemed a proper subject of objection in this court. No such ground appears to have been taken below; the patent itself forms part of the record, and an amendment would have been, it is submitted, instantly allowed by the court below, had the objection been there made. That the patent on its face was for twenty-eight years, forms one of the objections of the appellees to its validity, and the error complained of is set right by answer of the defendants themselves.

It is not deemed necessary by the appellants to present any authorities to meet the point argued by the appellees, that an act of Congress extending a patent for seven years is unconstitutional and void.

It is therefore submitted that the decree should be reversed, and that the appellant is entitled to a perpetual injunction, and an account.

The counsel for the appellees made several points, amongst which was the following :

1. That defendants are protected as assignees.

The bill (pages 14 to 20) asserts, and the answer admits, that the respondents claim to use the machine they are alleged to have infringed, as assignees, from 1833, the year of their purchase, under assignments from the original patentee. Being, then, assignees under the original patent, can they claim to continue unmolested in the use of the machine they purchased and paid for, and have erected and used for seventeen years ?

Was it the design of the act of 1845 to bring disasters upon the respondents, to deprive them of the rights they had acquired in good faith, to depreciate their property, to render useless their establishments, in which they had invested large sums of money, to destroy their business, and disable them from the performance of their contracts ? Such

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flagrant outrages are not to be imputed to a statute, unless the terms of it imperatively demand it.

The language of the act calls for no such harsh, unreasonable, and impolitic construction. It is a simple extension of the patent of 1828, and nothing more. Could any design in Congress to spread such disasters be predicated of the simple meaning of this statute?

Chief Justice Gibson, of Pennsylvania, has laid down a rule which must commend itself to the judgment of every one: that in the construction of statutes, the judges, when one of those cases of hardship occurs which continually arise, should do what their consciences irresistibly persuade them the legislature would have done if the occurrence had been foreseen. *Pennock v. Hart*, 8 S. & R. 369.

And can any one doubt that if the idea of the propriety of protecting the purchasers of rights, and the uses of the thing patented, had been suggested, but they would immediately have inserted such a clause?

This act of 1845 is a private act, made for the special benefit of a particular individual, and should not have such construction as will be detrimental to others. Chief Justice Parsons, in the case of *Coolidge v. Williams*, has laid down the rule to be that private statutes, made for the accommodation of particular citizens or corporations, ought not to be construed to affect the rights or privileges of others, unless such construction results from express words, or from necessary implication. 4 Mass. 145.

There are no express words in this statute, which demand the construction contended for by the plaintiff.

We may appeal, too, to the language of Mr. Justice Washington, in the case of *Evans v. Jordan*, that arguments founded upon hardship would be entitled to great weight, if the language of the act was not so peremptory as to forbid a construction at variance with the clear meaning of the legislature. 9 Cranch, 199 [4 Am. & Eng. 7].

There are no words in this act to justify such savage construction as urged by the plaintiff. It declares a simple extension of the patent, and manifestly intends an exten-

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sion similar to that which may be conferred by the Patent Office, under which the rights of persons using the invented machine under license are protected in the enjoyment of it.

The same learned chief justice of Massachusetts has also declared, in the case of *Wales v. Stetson*, that in the consideration of the provisions of any statute, they ought to receive such a reasonable construction, if the words and subject-matter will admit of it, as that the existing rights of the public or individuals be not injured. 2 Mass. 146.

If the legislature meant a simple extension of the patent for seven years, is it not a reasonable construction to suppose that it meant an extension as ordinarily understood,—as an extension of the nature of the extensions of the Patent Office, and with the restrictions and privileges of such extensions? Is it not reasonable to conclude that they had in their mind the general act of 1836, and the clause which gave to purchasers and users of the thing patented the right to continue that use? Is it not a reasonable construction that they meant that this special act should be construed in reference to the general law of the land? The language of the act is that the patent of 1828 “be extended for seven years.” Now, what benefit would that extension be, even to complainant, without an incorporation with the general law? How could he be assignee of the right?—how could he enjoy the use of the patent?—how could he pretend to recover damages, without an appeal for aid to the act of 1836? The plaintiff is obliged to invoke the aid of the general law to maintain this very action. The very plaintiff in this cause is an assignee, and undertakes to maintain this action in his own name, by calling into requisition the act of 1836.

The rule of law undoubtedly is, that laws on the same subject are to be construed together; that laws on the same subject are to be construed *pari passu*, and with reference to parallel legislation. This is clearly the rule as to general laws, which in relation to the same subject are to be construed as one act. They are to be construed, too, in reference to parallel legislation. *Penn v. Hamilton*, 2 Watts,

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60 ; [Coates v. Wallace] 17 S. & R. 81 ; [Bevan v. Taylor] 7 *Id.* 404.

The right of appeal given by the Pennsylvania act relating to divorces *a vinculo matrimonii*, was extended, by implication, to the act of 1817, respecting divorces *a mensa et thoro*. Roberts v. Roberts, 9 S. & R. 191.

So the right to appeal from justices' judgments, in cases of contracts, was held to extend to trespass, to which the powers of magistrates had been extended, without expressly giving the right of appeal. [Stewart v. Keemle] 4 S. & R. 73.

And this wise and safe rule of construction has been held to apply to statutes which have been repealed, or may not have been noticed by the statutes to be construed. Rex v. Loxdale, 1 Burr. 447.

And Lord Mansfield, in that case, said "that where there are different statutes *in pari materia*, though made at different times, or even expired, and not referring to each other, they shall be taken and construed together as one system." In the expressive language of Tilghman, Ch. J. of Pennsylvania, in one of the cases cited, they were so blended together as to form one statute.

And from the cases cited from Burrow, this blending of statutes, this analogy of legislation, is not confined to public statutes, but that public laws may receive aid in their construction from private laws, and *vice versa* ; for his lordship says, in the case cited, (page 448,) that the act of Parliament of 1740, relating to St. Martins and the overseers of that parish, (which was, I apprehend, clearly a private act,) which extended the number of overseers of the poor, to be appointed by two justices, under the general act of 43 Elizabeth, to the number of nine, "shows" (says the chief justice) "the construction put by the legislature themselves upon the 43 Elizabeth, on this head, and excepts this very large parish of St. Martins out of it."

I need not burden your honors with any name of books on this, so obvious a rule of construction. This case in Burrow was carefully considered ; it had been argued sev-

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eral times before Chief Justice Ryder, and afterward before Lord Mansfield, by great counsel, and if any case is entitled to respect of courts, it is a case so considered and so decided.

But we have cases nearer home, and more germane to this very matter of private acts, in relation to these very patent-rights.

In the case of *Evans v. Eaton*, 3 Wheat. 454 [4 Am. & Eng. 16], it was declared that an act of Congress authorizing the Secretary of State to issue a patent to Oliver Evans, for his improvements in the manufacture of flour, "was ingrafted on the general act for the promotion of useful arts, and that the patent was issued under both acts," the public and the private one.

So in the case of *Evans v. Jordan*, 9 Cranch, 199 [4 Am. & Eng. 7], which was an action to recover damages under the same private act, Washington, J., said, in declaring the opinion of the court, that "it should be recollected that the right of the plaintiff to recover damages for using his improvement, after the issuing of his patent, arises, not under this law, but the general law of 1793."

If the plaintiff is obliged to invoke the aid of the act of 1836, he must take the whole of it. It is a well-established rule of law, that he who claims the benefit of his title must admit its disadvantages. *Qui sentit commodum sentire debet et onus*.

Mr. Chief Justice TANEY delivered the opinion of the court.

The bill in this case was filed by the appellants on the 6th of July, 1850, in the Circuit Court of the United States for the Western District of Pennsylvania, to obtain an injunction restraining the appellees from the use of two of Woodworth's planing-machines in the city of Pittsburg. The term for which Woodworth's patent was originally granted expired in 1842, but it was extended seven years by the board established by the eighteenth section of the act of 1836. And afterward, by the act of Congress of February 26, 1845, this patent was extended for seven years

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more, commencing on the 27th of December, 1849, at which time the previous extension would have terminated.

It appears, from the pleadings and evidence in the case, that, shortly after the passage of the act of Congress of 1845, William Woodworth, the administrator of the patentee, in whose name the certificate of extension was directed to be issued, assigned all his right to James G. Wilson, from whom the appellant purchased the exclusive right to construct and use this machine, and to vend to others the right to construct and use it, in a large district of country described in the grant. Pittsburg, in which the machines in question are used, is included within these limits. And the right which the appellant purchased was regularly transferred to him by Wilson, by an instrument of writing duly recorded in the Patent Office.

In the year 1833, during the term for which the patent was originally granted, the defendants purchased the right to construct and use a certain number of these machines within the limits of the city of Pittsburg and Alleghany County; and the right to do was so regularly transferred to them by different assignments, deriving their title from the original patentee. The two machines mentioned in the bill were constructed and used by the respondents soon after the purchase was made, and the appellees continued to use them up to the time when this bill was filed. And the question is whether their right to use them terminated with the first extension, or still continues under the extension granted by the act of 1845.

The Circuit Court decided that the right of the appellees still continued, and upon that ground dismissed the appellant's bill. And the case is now before us upon an appeal from that decree.

In determining this question, we must take into consideration not only the special act under which the appellant now claims a monopoly, but also the general laws of Congress in relation to patents for useful improvements, and the special acts which have from time to time been passed in favor of the particular patentees. They are statutes in

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pari materia ; and all relate to the same subject, and must be construed together. It was so held in the case of *Evans v. Eaton*, 3 Wheat. 518 [4 Am. & Eng. 16], where the court said that the special act of Congress in favor of Oliver Evans, granting him a new patent for fourteen years, for his improvements in manufacturing flour and meal, was ingrafted on the general act for the promotion of useful arts, and the patent issued in pursuance of both. The rule applies with more force in the present case ; for this is not the grant of a new patent, but an enlargement of the time for which a patent previously extended under the act of 1836 should continue in force.

Indeed, this rule of construction is necessary to give effect to the special act under which the appellant claims the monopoly ; for this law does not define the rights or privileges which the patent shall confer, nor prescribe the remedy to which he shall be entitled if his rights are infringed. It merely extends the duration of the patent, and nothing more. And we are necessarily referred, therefore, to the general law upon the subject, to ascertain the rights to which the patent entitled him, and also the remedy which the law affords him if these rights are invaded.

Now, the act of 1836, in express terms, gives the benefit of the extension authorized by that law to the assignees and grantees of the right to use the thing patented to the extent of their respective interests therein. And under this provision it was decided, in the case of *Wilson v. Rousseau*, 4 Howard, 688 [4 Am. & Eng. 436], that the party who had purchased and was using this planing-machine during the original term for which the patent was granted, had a right to continue the use during the extension ; and the distinction is there taken between the grant of the right to make and vend the machine, and the grant of the right to use it.

The distinction is a plain one. The franchise which the patent grants consists altogether in the right to exclude every one from making, using, or vending the thing patented, without the permission of the patentee. This is all

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that he obtains by the patent. And when he sells the exclusive privilege of making or vending it for use in a particular place, the purchaser buys a portion of the franchise which the patent confers. He obtains a share in the monopoly, and that monopoly is derived from and exercised under the protection of the United States ; and the interest he acquires necessarily terminates at the time limited for its continuance by the law which created it. The patentee cannot sell it for a longer time ; and the purchaser buys with reference to that period, the time for which exclusive privilege is to endure being one of the chief elements of its value. He therefore has no just claim to share in a further monopoly subsequently acquired by the patentee. He does not purchase or pay for it.

But the purchaser of the implement or machine, for the purpose of using it in the ordinary pursuits of life, stands on different ground. In using it, he exercises no rights created by the act of Congress, nor does he derive title to it by virtue of the franchise or exclusive privilege granted to the patentee. The inventor might lawfully sell it to him, whether he had a patent or not, if no other patentee stood in his way. And when the machine passes to the hands of the purchaser, it is no longer within the limits of the monopoly. It passes outside of it, and is no longer under the protection of the act of Congress. And if his right to the implement or machine is infringed, he must seek redress in the courts of the State, according to the laws of the State, and not in the courts of the United States, nor under the law of Congress granting the patent. The implement or machine becomes his private, individual property, not protected by the laws of the United States, but by the laws of the State in which it is situated. Contracts in relation to it are regulated by the laws of the State, and are subject to State jurisdiction. It was so decided in this court, in the case of *Wilson v. Sanford and others*, 10 Howard, 99 [p. 122, *ante*]. Like other individual property, it is then subject to State taxation ; and from the

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great number of patented articles now in use, they no doubt, in some of the States, form no inconsiderable portion of its taxable property.

Moreover, the value of the implement or machine in the hands of the purchaser for use does not in any degree depend on the time for which the exclusive privilege is granted to the patentee ; nor upon the exclusion of others from its use. For example, in the various patented articles used in agriculture, in milling, in manufactures of different kinds, in steam-engines, or for household or other purposes, the value to the purchaser is not enhanced by the continuance of the monopoly. It is of no importance to him whether it endures for a year or twenty-eight years. He does not look to the duration of the exclusive privilege, but to the usefulness of the thing he buys, and the advantages he will derive from its use. He buys the article for the purpose of using it as long as it is fit for use and found to be profitable. And in the case before us the respondents derive no advantage from the extension of the patent, because the patentee may place around them as many planing-machines as he pleases, so as to reduce the profits of those which they own to their just value in an open and fair competition.

It is doubtless upon these principles that the act of 1836 draws the distinction between the assignee of a share in the monopoly, and the purchase of one or more machines, to be used in the ordinary pursuits of business ; and that distinction is clearly pointed out and maintained in the case of *Wilson v. Rousseau*, before referred to.

Upon the authority, therefore, of the cases of *Evans v. Eaton* and *Wilson v. Rousseau*, these two propositions may be regarded as settled by judicial decision : 1. That a special act of Congress in favor of a patentee, extending the time beyond that originally limited, must be considered as ingrafted on the general law ; and 2. That under the general law in force when this special act of Congress was passed, a party who had purchased the right to use a planing-

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machine during the period to which the patent was first limited, was entitled to continue to use it during the extension authorized by that law.

Applying these rules to the case before us, the respondents must be entitled to continue the use of their planing-machines during the time for which the patent is extended by the special act of Congress, unless there is something in the language of the law requiring a different construction.

But there is nothing in the law to justify the distinction claimed in this respect on behalf of the patentee. Its language is plain and unambiguous. It does not even grant a new patent, as in the case of Oliver Evans. It merely extends the time of the monopoly to which the patentee was entitled under the general law of 1836. It gives no new rights or privileges, to be superadded to those he then enjoyed, except as to the time they should endure. The patent, such as it then was, is continued for seven years longer than the period before limited. And this is the whole and only provision contained in this special act. In order, therefore, to determine the rights of the patentee during the extended term, we are necessarily referred to the general law, and compelled to inquire what they were before this special act operated upon them, and continued them. Indeed, the court has been obliged to recur to the act of 1836, in every stage of this suit, to guide it in deciding upon the rights of the parties, and the mode of proceeding in which they are to be tried. It is necessarily referred to in order to determine whether the patent under which the complainant claims was issued by lawful authority, and in the form prescribed by law; it was necessary to refer to it in the Circuit Court in order to determine whether the patentee was entitled to the patent as the original inventor, that fact being disputed in the Circuit Court; also, for the notices to which he was entitled in the trial of that question; and for the forum in which he was authorized to sue for an infringement of his rights; and the rights of the appellant to bring the case before the court for adjudication is derived altogether from the provisions of the gen-

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eral law,—for there is no evidence in the record to show that the machines are worth two thousand dollars, and no appeal therefore would lie from the decision of the Circuit Court, but for the special provision in relation to patent cases in the act of 1836. And while it is admitted that this special act is so ingrafted on the general law as to entitle the patentee to all the rights and privileges which that law has provided for the benefit and protection of inventors, it can hardly be maintained that the one in favor of the purchaser of a machine is by construction to be excepted from it, when there are no words in the special act to indicate that such was the intention of Congress.

This construction is confirmed by the various special acts which have been passed from time to time in favor of particular inventors, granting them new patents after the first had expired, or extending the time for which they were originally granted. Many of these acts have been referred to in the argument, some of which contain express provisions, protecting the rights of the purchaser under the first term, and others contain no provision on the subject, and merely grant a new patent, or, as in the case before the court, extend the duration of the old one. And in several instances special laws in favor of different inventors have been passed within a short time of each other, in one of which the rights of the previous purchaser are expressly reserved, and in the other there is no provision on the subject. And the act of March 3, 1845, authorizing the patent of William Gale, for an improvement in the manufacture of silver spoons and forks, to be extended, was passed only a few days after the act in favor of Woodworth; and Gale's patent is subjected, in express terms, to the conditions and restrictions in the act of 1836, and consequently protects previous purchasers from a new demand.

It has been contended, on behalf of the appellant, that the insertion of these restrictions in one special law, and the omission of them in another, shows that in the latter Congress did not intend to exempt the purchaser from the necessity of obtaining a new license from the patentee;

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and that Congress might well suppose that one inventor had stronger claims upon the public than another, and might on that account give him larger privileges on the renewal.

But this argument only looks to one side of the question, that is, to the interest and claims of the inventor. There is another and numerous class of persons who have purchased patented articles, and paid for them the full price which the patentee demanded, and we are bound to suppose that their interests and their rights would not be overlooked or disregarded by Congress; and still less that any distinction would be drawn between those who purchased one description of patented machines and those who purchased another. For example, the act granting a new patent to Blanchard in 1834, for cutting or turning irregular forms, saves the rights of those who had bought under the original patent. And we ought not to presume, without plain words to require it, that, while Congress acknowledged the justice of such claims in the case of Blanchard, they intended to disregard them in the case of Woodworth. Nor can it be said that the policy of Congress has changed in this respect after 1834, when Blanchard's patent was renewed; for, as we have already said, the same protection is given to purchasers in the special law authorizing the renewal of Gale's patent, which was passed a few days after the law of which we are speaking.

The fair inference from all of these special laws is this: that Congress has constantly recognized the rights of those who purchase for use a patented implement or machine; that in these various special laws the patentee and purchasers of different inventions were intended to be placed on the same ground; and that the relative rights of both parties under the extension by special act of Congress were intended to be the same as they were when the extension was granted under the general law of 1836. It would seem that in some cases the attention of the legislature was more particularly called to the subject, and the rights of the purchaser recognized and cautiously guarded. And when the

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provision is omitted, the just presumption is that Congress legislated on the principle decided by this court in *Evans v. Eaton*, and regarded the special law as ingrafted on the general one, and subject to all of its restrictions and provisions, except only as to the time the patent should endure. Time is the only thing upon which they legislate; and any other construction would make the legislation of Congress, on these various special laws, inconsistent with itself, and impute to it the intention of dealing out a different measure of justice to purchasers of different kinds of implements and machines,—protecting some of them, and disregarding the equal and just claims of others.

And if such could be the interpretation of this law, the power of Congress to pass it would be open to serious objections; for it can hardly be maintained that Congress could lawfully deprive a citizen of the use of his property after he had purchased the absolute and unlimited right from the inventor, and when that property was no longer held under the protection and control of the general government, but under the protection of the State, and on that account subject to State taxation.

The fifth amendment to the Constitution of the United States declares that no person shall be deprived of life, liberty, or property, without due process of law.

The right to construct and use these planing-machines had been purchased and paid for, without any limitation as to the time for which they were to be used. They were the property of the respondents. Their only value consists in their use. And a special act of Congress, passed afterward, depriving the appellees of the right to use them, certainly could not be regarded as due process of law.

Congress undoubtedly have power to promote the progress of science and useful arts, by securing for limited times, to authors and inventors, the exclusive right to their respective writings and discoveries.

But it does not follow that Congress may, from time to time, as often as they think proper, authorize an inventor to recall rights which he had granted to others, or reinvest

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in him rights of property which he had before conveyed for a valuable and fair consideration.

But we forbear to pursue this inquiry, because we are of opinion that this special act of Congress does not, and was not intended to, interfere with rights of property before acquired ; but that it leaves them as they stood during the extension under the general law. And in this view of the subject the appellant was not entitled to the injunction he sought to obtain, and the Circuit Court were right in dismissing the bill.

As the decision on this point disposes of the case, it is unnecessary to examine the other grounds of defence taken by the appellees.

The decree of the Circuit Court must be affirmed.

Mr. Justice McLEAN and Mr. Justice NELSON dissented.

Mr. Justice McLEAN.

Woodworth's patent bears date the 27th of December, 1828, and runs for fourteen years. On the 29th of July, 1830, the patentees conveyed to Isaac Collins and Barzillai C. Smith the right to construct, use, and vend to others the planing-machine invented within several States, including Pennsylvania, except the city of Philadelphia. On the 19th of May, 1832, Collins and Smith transferred to James Barnet the right to construct and use, during the residue of the aforesaid term of fourteen years, fifty planing-machines, within Pittsburg and Alleghany County, for which he agreed to pay four thousand dollars. Barnet agreed not to construct or run more than fifty machines during the term aforesaid, and Collins and Smith bound themselves not to license during the term, nor to construct or use themselves during the term, or allow others to do so, in the limits of Pittsburg and Alleghany County.

On the 27th of December, 1842, the patent expired, but it was renewed and extended for seven years, under the act of 1836. This extension expired in 1849 ; but Congress, on the 26th of February, 1845, passed an act which provided

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that "the said letters patent be, and the same is hereby, extended for the term of seven years from and after the 27th day of December, 1849."

The patentee, by deed dated the 14th of March, 1845, and also by a further deed dated the 9th of July, 1845, conveyed to James E. Wilson all his interest, as administrator, in the letters patent under the extension by the act of Congress. And Wilson, on the 4th of June, 1847, for the consideration of twenty-five thousand dollars, gave to Bloomer, the plaintiff, a license to construct and use, and vend to others to construct and use, during the two extensions, "all that part of Pennsylvania lying west of the Alleghany Mountains, excepting Alleghany County, for the first extension, which expires on the 27th day of December, 1849, and the States of Virginia, Maryland, Kentucky, and Missouri, excepting certain parts of each State."

The defendants continued to run their machines during the residue of the fourteen years for which the patent was granted, and during the first extension; and the complainant filed his bill to enjoin the defendants from running their machines under the second extension by the act of Congress.

The contract of the defendants was entered into the 19th of May, 1831, and under it Barnet had a right "to construct and use, during the residue of the aforesaid term of fourteen years, fifty planing-machines," &c. The patent expired on the 27th of December, 1842. The contract of defendants was made the 19th of May, 1832, leaving about nine years and six months for the patent to run, and this was the time limited by the contract, and for which the consideration of four thousand dollars was paid. This was not left to construction from the life of the patent, but the contract expressly declared the right was purchased "for the residue of the aforesaid term of fourteen years."

This term was enjoyed by the defendants, and under the decision of this court, in the case of *Wilson v. Rousseau, et al.* 4 Howard, 646 [4 Am. & Eng. 436], the seven years' extension under the act of 1836 was also enjoyed by the defendants.

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This construction of the act of 1836, in my judgment, was not authorized, and was not within the intention of the law, as was expressed at the time. That extension having expired, another extension is claimed under the act of Congress. This claim is set up to an injunction bill, filed by the complainant, who is the assignee of the patent for a part of Pennsylvania and other States. And by the decision of four of my brethren, just delivered, the defendants are to enjoy this extension, making fourteen years beyond their control. This would seem to imply, that, under the act of 1836, and under the act of 1845, the assignees were the favored objects of Congress. But this is not the case. The patentee who made the invention, and through whose ingenuity, labor, and expense a great benefit has been conferred on the public, in justice is entitled to remuneration ; and that only was the ground of extension, whether under the law of 1836, or the special act of 1845.

This, as well as the former decision, was influenced by the consideration that the owners of the machines are, in equity, entitled to run them so long as the exclusive right of the patent shall be continued. It is said that the machines are property, and that no act of Congress should deprive the owners of the use of their property. But in this view, the property of the patentee seems not to be taken into the account. He is the meritorious claimant for protection. The assignee for a specific time rests upon his contract. He has conferred no benefit on society. His investment was made with an exclusive reference to his own advantage. He has no more claims upon the public sympathy than he who rents a mill, a farm, or engages in a business open to all who expect a profit by it.

But the hardship is supposed to exist in the fact that to use the right a planing-machine must be constructed at an expense of some four or five hundred dollars, and this will be lost to the occupier, if by an extension he shall not be permitted to run his machine. The answer is, when he entered into the contract he knew, or is presumed to have known, that the patent might be extended under the law

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of 1836 or by special act, and if he desired an interest under the renewed patent he should have provided for it in his contract. Having failed to do this, it would seem to be unjust that, under a contract to run the machine less than ten years, he should be entitled to run it sixteen years. The consideration paid was limited to the term specified in the contract. But it is answered that the assignee expected to run his machine after the termination of the contract on which the exclusive right would end and become vested in the public.

Let us examine this plea, and it will be found that a great fallacy prevails on this subject. A right that is common is no more valuable to one person than another, as all may use it. The injury, then, consists, so far as the licensee is concerned, in the reduction of the value of his machine, by the extension of the exclusive right in the patentee, to the exclusion of the assignee. It is true, this deprives him of the monopoly which his contract secured to him. But he has enjoyed this to the extent of his contract, and for which he has paid the stipulated consideration. Now, his only equitable plea to run his machine during the renewed patent, arises alone from the supposed difference in the value of his machine under the renewal, without a license, and where the right becomes vested in the public.

If there had been no renewal, the licensee might run his machine, and any other person might run one. It is a fact known to every observing individual, when a new business is set up, as a planing-machine, supposed to be very profitable generally, a competition is excited which reduces the profit below a reasonable compensation for the labor and expense of the business. If the monopoly continued as enjoyed under the contract, the consideration paid for the monopoly would be added to the profits, which would make them large. But when the monopoly ceases, the profits, if not destroyed, are reduced by competition, at least as low, if not below the ordinary profit of capital employed in other investments.

If the business of the county or city required the number

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of planing-machines in operation, the licensee could sell his machine at a reasonable reduction for the time it had run. The machines of the defendant had run, probably, from twelve to fifteen years. A considerable reduction would be expected by the purchaser, as a machine could not be expected to last more than twenty years. But suppose it can be used thirty, then one-half of the value must be deducted for the wear of the machine fifteen years, which would reduce it to some two hundred and fifty or three hundred dollars.

But suppose the exclusive right should be continued in the patentee by an extension of it seven years. Then, if the machines were not more numerous than the public required, they would be wanted by their owners, or by others disposed to engage in the business. And I hazard nothing in saying, that, after deducting the compensation from the profits paid for the exclusive right, they would be larger than could be hoped for where the right was common. Under such circumstances, I can entertain no doubt that a machine would sell for more money, under the extension of the patent, than where the right goes to the public.

The idea that to refuse the use of a machine under the extension of a patent is an unjust interference with property, I think, is unfounded. There is no interference with the property in the machine. The owner may sell it to any one who has a license to use it. It is not the property in the machine that is complained of, but because the right to run it longer than the contract provided for is not given. The licensee has used the franchise as long as he purchased and paid for it; and can he, in justice, claim more than his contract? The extension of the right to use, while the extended patent continues, does a wrong to the patentee, by taking his property, without compensation, and giving it to the licensee. The franchise is property, and it can no more be transferred to another, without compensation or contract, than any other property. It would seem that this description of property is not governed by contract. That

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a contract to use the franchise ten years does not mean what is expressed, but may mean a right for twenty years, or any other term to which the patent may be extended.

Every man who has sense enough to make a contract, takes into his estimate the contingency of a loss, to some extent, in going out of the business. He fixes his own time for the contract, and if he wishes to provide for the contingency arising from the renewal of a patent, he can embrace it in his contract for a stipulated compensation.

It may be true, that, unless the contrary appear, when the patentee sells a planing-machine, a right to use it may be applied. But the right to construct and the right to use are distinct. Some purchase of the patentee the right to construct the machine; others to use it. This planing-machine cannot be compared to a plough, or any other article which may be considered the product of the patent. The machine is the instrument through which the plank is planed. The plank is the product, and may be sold in the market as other property. But the planing-machine cannot be used without a license. The law protects the franchise, by prohibiting the use of the machine without a license. When Barnet purchased the franchise for the fifty machines, he did not buy the machines for a term as long as the machines could run, but for nine years and six months. The contract, neither expressly nor impliedly, extended beyond that term.

In this view, I think that I am not mistaken; and if I am not, the licensee is not injured a dollar by the termination of his right to run his machine, as fixed in his contract. But on whom is the injury inflicted by extending the contract of the licensee with the patentee, and that without compensation? In the present case, the patentee has been injured, by the use of the fifty machines, at least four thousand dollars, the amount agreed to be paid for the right to run them less than ten years. And must not the property of the patentee be taken into the account, as well as the imagined rights of the licensee?

The patentee is justly considered a public benefactor.

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He has conferred a great benefit upon the world, and he is entitled, under our laws, to at least a compensation for his expense, ingenuity, and labor.

That the patentee is the only one whose interests are regarded, as the ground of extending the patent, in the act of 1836, is clear. Now, suppose the patentee has assigned the whole of the patent, without receiving such a compensation as the law authorizes, there can be no doubt he is entitled, on that ground, to a renewal of the patent; and yet, under the decision now given, his assignees would receive all the benefits of the renewal. Should not this fact cause doubts whether the rule of construction of the statute can be a sound one which defeats its avowed object? If this be the consequence of the assignment of the entire interest by the patentee, any partial assignment must produce the same result, though to a more limited extent. A principle which will not bear this test is not sound.

The act of 1845, extending this patent, annexed no conditions. The exclusive right was extended to the administrator of Woodworth for seven years from the 27th of December, 1849. But the decision now given, in effect, declares this exclusive right is not given. Indeed, the object of Congress must be defeated, if the machines in operation at the time of the passage of the act are to be continued without compensation. It is presumed there are few places where planing-machines were not constructed before 1849, the time the renewal took effect, if the public required them. On this supposition, the extension of the patent can be of little or no benefit to the heirs of the patentee. Congress could have granted the act only upon the ground to remunerate the heirs of the inventor.

There seems to be a great mistake as to the profits of this patent. It was a valuable patent, but, as in all other cases, its value excited the rapacity of men who seek to enrich themselves by taking the property of others. The records of the court show that piracies were committed on this patent in every part of the country; and that to sustain it, much expenditure and labor have been required. It is

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stated that the sum of near two hundred thousand dollars has been thus expended to establish this patent. Congress have extended many patents. In some instances, conditions have been imposed; in others, the franchise has been extended unconditionally. Now, where the patent is extended by act of Congress without conditions, I am unable to perceive how the court can impose conditions. Such an act would be legislation, and not construction.

By the act of the 15th of February, 1847, the patent of Thomas Blanchard, for cutting irregular forms out of wood, brass, or iron, was extended for fourteen years from the 20th of January, 1848: "Provided that such extension shall inure to the use and benefit of the said Thomas Blanchard, his executors and administrators, and to no other persons whomsoever, except that a *bona-fide* assignee of the invention, by virtue of an assignment from the patentee heretofore made, shall have the benefit of this act upon just, reasonable, and equitable terms, according to his interest therein. And if the said Thomas Blanchard, his executors or administrators, cannot agree with such assignee, the terms shall be ascertained and determined by the Circuit Court of the United States for the district in which such assignee resides, to be decreed upon a bill to be filed by such assignee for that purpose. And provided further, that no assignee shall have the benefit of this act unless he shall, within ninety days from its passage, agree with the said Thomas Blanchard as to the consideration upon which he is to have it, or file his bill," &c.

Every one must perceive the justice and propriety of this act. Under the decision now given, the assignee of Blanchard would have had the benefit of the extension without paying for it. This act, extending Blanchard's patent, was passed two years after the decision of this court in *Wilson v. Rousseau*, which, under the act of 1836, gave the benefit of the extension to the assignee. This must have been known to Congress, and yet they deemed a special provision in behalf of the assignee necessary. This act, and several others of a similar character, cannot fail to convince

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every one that Congress did not suppose that the courts have power to annex a condition to a legislative grant.

In the case of *Evans v. Jordan and Morehead*, 9 Cranch, 199 [4 Am. & Eng. 7], this court held, that the act of January, 1808, for the relief of Oliver Evans, does not authorize those who erected their machinery between the expiration of their old patents and the issuing of the new one to use it after the issuing of the latter.

The above act extended the patent fourteen years, "provided that no person who may have heretofore paid the said Oliver Evans for license to use the said improvements shall be obliged to renew said license, or be subject to damages for not renewing the same; and provided also, that no person who shall have used the said improvements, or have erected the same for use, before the issuing of the said patent, shall be liable to damages therefor."

This was a much stronger case for equitable considerations than the one before us. Evans' patent had expired. His improvements were free to the public, and they were adopted by the defendants before he made application to Congress for a renewal of his patent. I will cite the reasoning of the Supreme Court on that case. "The language," they say, "of this last proviso is so precise, and so entirely free from all ambiguity, that it is difficult for any course of reasoning to shed light upon its meaning. It protects against any claim for damages which Evans might make, those who have used his improvements, or who may have erected them for use, prior to the issuing of his patent under this law. The protection is limited to acts done prior to another act thereafter to be performed, to wit, the issuing of the patent. To extend it, by construction, to acts which might be done subsequent to the issuing of the patent, would be to make, not to interpret, the law." "The injustice of denying to the defendants the use of machinery which they had erected after the expiration of Evans' first patent, and prior to the passage of this law, has been strongly urged as a reason why the words of this proviso should be so construed as to have a prospective operation.

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But it should be recollected that the right of the plaintiff to recover damages for using his improvement after the issuing of his patent under this law, although it had been erected prior thereto, arises, not under this law, but under the general law of the 21st of February, 1793. The provisos in this law profess to protect, against the operation of the general law, three classes of persons : those who had paid Evans for a license prior to the passage of the law ; those who may have used his improvements ; and those who may have erected them for use before the issuing of the patent."

And the court say : " The legislature might have proceeded still further, by providing a shield for persons standing in the situation of these defendants. It is believed that the reasonableness of such a provision could have been questioned by no one. But the legislature have not thought proper to extend the protection of these provisos beyond the issuing of the patent under that law, and this court would transgress the limits of the judicial power by an attempt to supply, by construction, this supposed omission of the legislature. The argument, founded upon the hardship of this and similar cases, would be entitled to great weight, if the words of this proviso were obscure and open to construction. But considerations of this nature can never sanction a construction at variance with the manifest meaning of the legislature, expressed in plain and unambiguous language."

The above views do not conflict with the opinion of the court in *Evans v. Eaton*, 3 Wheat. 454 [4 Am. & Eng. 16]. In that case the court say : " Some doubts have been entertained respecting the jurisdiction of the courts of the United States, as both the plaintiff and defendants are citizens of the same State. The fifth section of the act to promote the progress of useful arts, which gives to every patentee a right to sue in a Circuit Court of the United States, in case his rights be violated, is repealed by the third section of the act of 1800, which gives the action in the Circuit Court of the United States where a patent is granted, ' pursuant ' to that act, or to the act for the promotion of useful arts.

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This patent, it has been said, is granted, not in pursuance of either of those acts, but in pursuance of the act 'for the relief of Oliver Evans.' But this court is of opinion that the act for the relief of Oliver Evans is ingrafted on the general act for the promotion of useful arts, and that the patent is issued in pursuance of both. The jurisdiction of the court is therefore sustained."

There can be no question, that the special law extending the grant, as to its validity, is subject to the general Patent Law. The right was intended to be exclusive, if it be established that Evans was the original inventor of the improvements claimed, and such improvements were stated with the necessary precision; and, also, that it came under the class of cases on which suit could be brought in the courts of the United States, without regard to the citizenship of the parties. But it could not have been intended to apply to any contract subsequent to the patent, and it could only be held to embrace those general provisions of the Patent Law which relate to the validity of the patent. Under the act of Congress, a specification was necessarily filed, and it seems to be the practice to issue a patent under the act. This, it appears to me, is unnecessary, as the grant in the act is sufficient. But the schedule is necessary to show the nature and extent of the claim, and these must be sustained on those principles which apply to patents generally.

To give any other construction to the above remarks of the court, would be in direct contradiction to the language used, and the principle decided in the case above cited from Cranch. In fact, the remark that the relief of Evans was ingrafted on the general law, was made in reference to the jurisdiction of the court, and cannot be extended beyond that and other questions, in relation to the validity of the patent.

This argument of the court, in *Evans v. Jordan*, applies with all its force and authority to the case before us; and I need only say it was the language of Marshall, of Story, of Washington, and of the other judges of the court, except Judge Todd, who appears to have been absent. I can add

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nothing to the weight of the argument ; but I will proceed to name the judges of this court who have given opinions opposed to the decision of this case by four of my brethren.

Mr. Justice Wayne being sick, did not sit in the case. In *Wilson v. Rousseau*, he held that, under the act of 1836, the licensee had no right to run his machine under the extended patent.

Mr. Justice Curtis having, as counsel, given an opinion opposed to the right of the defendants, did not sit in the case. Mr. Justice Thompson and Mr. Justice Story had both given opinions against the right of the assignee, unless under a special assignment. This was the opinion of Mr. Justice Woodbury, as expressed in the case of *Wilson v. Rousseau*. Mr. Justice McKinley gave an opinion against the right of the assignee under the act of 1845, extending Woodworth's patent. The same decision has been frequently given, by the justices of this bench, in the second and seventh circuits.

Sustained by the authority of seven justices of this court, and by an argument of the Supreme Court, above cited, which I think is unanswerable, I shall deem it to be my duty to bring the same question now decided, when it shall arise in my circuit, for the consideration and decision of a full bench.

ORDER. This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the Western District of Pennsylvania, and was argued by counsel ; on consideration whereof, it is now here ordered, adjudged, and decreed by this court, that the decree of the said Circuit Court in this cause be, and the same is hereby, affirmed with costs.

AFFIRMED.

Notes:

1. Special acts.

Evans v. Jordan, 9 Cranch, 199 [4 Am. & Eng. 7].

Evans v. Eaton, 3 Wheat. 454 [4 Am. & Eng. 16].

Notes and Citations.

3. Purchase of patented article takes it beyond the patent monopoly.

Bloomer *v.* Millinger, 1 Wall. 340.

Mitchell *v.* Hawley, 16 Wall. 544.

Adams *v.* Burke, 17 Wall. 453.

State law in respect to sale of patented article :

Patterson *v.* Kentucky, 97 U. S. 501.

Webber *v.* Virginia, 103 U. S. 344.

5. Right to continued use during extension.

Wilson *v.* Rousseau, 4 How. 646 [4 Am. & Eng. 436].

Simpson *v.* Wilson, 4 How. 709 [4 Am. & Eng. 533].

Wilson *v.* Turner, 4 How. 712 [4 Am. & Eng. 539].

Wilson *v.* Simpson, 9 How. 109 [p. 97, *ante*].

Chaffee *v.* Boston Belting Co., 22 How. 217.

Bloomer *v.* Millinger, 1 Wall. 340.

Mitchell *v.* Hawley, 16 Wall. 544.

Eunson *v.* Dodge, 18 Wall. 414.

Paper Bag Cases, 105 U. S. 766.

Patent in suit :

No. . Woodworth, W. December 27, 1828. Planing
Mill. Reissue No. 71. July 8, 1845.

OTHER SUITS ON SAME PATENT :

See Barnard *v.* Gibson, 7 How. 650 [p. 74, *ante*].

Notes and Citations.

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IN SUPREME COURT OF UNITED STATES:

- Dean v. Mason, 1858. 20 How. 198 ; Bk. 15, L. ed. 876.
Chaffee v. Boston Belting Co., 1859. 22 How. 217 ; Bk. 16, L. ed. 240.
Bloomer v. Millinger, 1864. 1 Wall. 340 ; Bk. 17, L. ed. 581.
Mitchell v. Hawley, 1873. 16 Wall. 544 ; Bk. 21, L. ed. 322.
Adams v. Burke, 1873. 17 Wall. 453 ; Bk. 21, L. ed. 700.
Eunson v. Dodge, 1873. 18 Wall. 414 ; Bk. 21, L. ed. 766.
Paper Bag Cases, 1882. 105 U. S. 766 ; Bk. 26, L. ed. 959.
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IN CIRCUIT COURTS:

- Day v. Union India Rubber Co., August, 1856. 3 Blatch. 488.
Goodyear v. Beverly Rubber Co., October, 1859. 1 Cliff. 348.
Aiken v. Manchester Print Works, May, 1865. 2 Cliff. 435.
Hodge v. Hudson River & Harlem R. R., April, 1868. 6 Blatch. 85 ; 3 Fish. 410.
Wood v. Mich. Southern R. R., November, 1868. 2 Biss. 62 ; 3 Fish. 464.
Jenkins v. Nicholson Pavement Co., June, 1870. 1 Abb. C. C. 567 ; 4 Fish. 201.
Adams v. Burke, March, 1871. 1 Holmes, 40 ; 4 Fish. 392 ; 1 O. G. 282.
Hawley v. Mitchell, March, 1871. 1 Holmes, 42 ; 4 Fish. 388 ; 1 O. G. 306.
Wetherill v. Passaic Zinc Co., October, 1872. 9 Phila. R. 385 ; 6 Fish. 50 ; 2 O. G. 471.
Gear v. Grosvenor, March, 1873. 1 Holmes, 215 ; 6 Fish. 314 ; 3 O. G. 380.
Hill v. Whitcomb, February, 1874. 1 Holmes, 317 ; 1 Ban. & Ard. 34 ; 5 O. G. 430.
Fire Extinguisher M'fg Co. v. Graham, May, 1883. 16 Fed. Rep. 543 ; 24 O. G. 793.
Holiday et al. v. Mattheson et al., 1885. 24 Fed. Rep. 185 ; 31 O. G. 1444.

Notes and Citations.

U. S. *v.* Am. Bell Telephone Co., November, 1886. 29 Fed. Rep.
17.

IN STATE COURTS :

Howe *v.* Wooldredge, January, 1866. 12 (94 Mass.) Allen, 18.
Burke *v.* Partridge, June, 1878. 58 N. H. Rep. 349 ; 10 Reporter,
310.

IN TEXT-BOOKS :

2 Abb. Pat. Law, 1886, pp. 3, 5, 128, 129, 140.
Walker on Pats., 1883, pp. 106, 133, 184, 185, 193, 219.
Curtis on Pats., 4th ed., §§ 198, 203, note, 297.

[illegible]

Statement of the case.

URIAH A. BOYDEN, PLAINTIFF IN ERROR, v.
EDMUND BURKE.

14 How. 575-583. Dec., 1852.

[Bk. 14, L. ed. 548 ; 1 Whit. 754.]

Evidence. Request to Patent Commissioner for copies of patents. Commissioner's duty. Refusal to furnish copies. Patents are public records.

1. Where on suit brought against the Commissioner of Patents for refusal to furnish certain copies of office records, but no special damages were alleged in the declaration, the reception of evidence tending to prove such damages was properly refused (p. 479).
2. But plaintiff's letter to the Commissioner requesting the delivery of the copies to his agent, and the Commissioner's (defendant's) reply thereto, were properly received as part of the *res gestæ* (p. 479).
3. Patents are public records ; and it is the duty of the Commissioner to give authenticated copies to any person who shall demand the same, as soon as he conveniently can, on payment of the legal fees (p. 479).
4. Where a demand for copies of certain patents was made on the Commissioner of Patents, accompanied with rudeness and insults, *held* on action for damages brought for Commissioner's refusal, that it was not a legal demand ; but a subsequent demand having been made in a proper manner, that defendant was not justified in his refusal in default of an apology, and as plaintiff had shown a demand of the copies, with tender of fee and refusal of defendant, he had made out his case as laid in this declaration, and was entitled to a verdict with nominal damages (p. 480).

THIS case was brought up by writ of error from the Circuit Court of the United States for the district of Columbia, holden in and for the county of Washington.

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Boyden was a citizen of Massachusetts, and Burke was Commissioner of Patents at the time when the transactions took place which were the subject of the suit.

The ground of the action was, that Burke wilfully, maliciously, and corruptly, and with intent to injure Boyden, had refused to give copies of certain patents.

The bills of exceptions referred to certain letters, which will be mentioned chronologically.

On the 14th of December, 1847, Boyden wrote a long letter to Burke, too long to be inserted. The following extract from it will be sufficient :

" If, in your letter of August 10, 1847, you mean by the ' office ' yourself, or the author of the letters which I have received from you, you prescribe two conditions in said letter which are inconsistent, viz., that my letters to you or to the author of those letters subscribed by you, should be both respectful and proper. It is improper to treat a person respectfully while it is known that he is unworthy of respect ; therefore it is impossible to comply with your prescriptions. The claim of unworthy officeholders to have people, as they say, respect the offices they hold, while it is known that the incumbents are unworthy of respect, is absurd. Do you mean, when you urge people to respect ' the office,' to have them respect you merely because you hold the office, while it is known that you are unworthy of respect ? This is a free country !" &c.

On the same day Mr. Boyden wrote to Mr. Greenough, in Washington, as follows :

BOSTON, MASS., *December 14, 1847.*

SIR: Your letter of the 23d ult. was duly received. I wrote to Mr. Burke to-day, criticising his conduct, and informing him that I wish him to deliver to you a certified copy of each of the following patents, including drawings, specifications, and claims, or of all of them which are recorded in the Patent Office: George W. Henderson and John E. Cayford's patent, dated April 14, 1830 ; Charles

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Kenzie's patent, dated July 1, 1836 ; and J. K. Millard's patent, dated May 9, 1846.

You will oblige by tendering the fees for those copies if he declines furnishing them ; and if you obtain them, I wish you to send them by mail to me at Boston. Respectfully,

(Signed,) URIAH A. BOYDEN.

Test : JOHN A. SMITH, *Clerk*.

Mr. Greenough, accordingly, called upon Mr. Burke, who declined to cause the copies to be prepared for him, as the agent of Mr. Boyden, and addressed to Mr. Greenough an explanatory letter, from which the following is an extract :

"Of these reasons, for declining to cause the copies to be made for him, which you requested, you were duly apprised. And you were also informed, as Mr. Boyden himself has been informed, that until he comes to the conclusion to treat this office with the civility which the customs and rules of official intercourse require, this office will have no intercourse with him, directly or through the agency of others. When he concludes to conduct his intercourse with this office with decency and propriety, his business will be attended to."

On the 20th of January, 1848, Mr. Burke made the following memorandum, which he handed to Mr. Laskey, who had called for the same papers :

PATENT OFFICE, *January 20, 1848.*

Mr. R. H. Laskey, as the agent of Uriah A. Boyden, calls for the following copies of patents, including drawings, specifications, and claims, or all of them which are recorded in the Patent Office, viz. : George W. Henderson and John E. Cayford's patent, dated April 14, 1830 ; Charles Kenzie's patent, dated July 1, 1846 ; and J. K. Millard's patent, dated May 9, 1846 ; for which he offers to pay the usual fees required by law for copies.

I hereby refuse to give him the copies called for, for Mr.

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Boyden, or to transact any other business for Mr. Boyden with Mr. Laskey. I do not refuse copies of any patents or other papers which Mr. Laskey requires for himself or for any other person except Mr. Boyden. I refuse to do any business for Mr. Boyden, whether he applies for the same personally or by agent, until he comes to the conclusion to observe, in his communications with this office, or its official head, the proprieties usually observed in official intercourse. When he comes to the conclusion to address this office, or its head, in respectful language, any business which he may have with it will be done as it is done for other persons, whether he applies in person or by agent.

EDMUND BURKE.

Mr. Boyden soon afterward brought his action against Burke, as above stated.

On the trial of the cause, the plaintiff's counsel took four bills of exceptions; the first three of which related to evidence, and the fourth an exception to a general instruction that the plaintiff was not entitled to recover.

They were as follows:

First Exception.—On the trial of the issue in this cause, the plaintiff, to maintain the issue on his part joined, offered to give evidence tending to show that he is a citizen of the United States, residing in Boston, in the State of Massachusetts; that he is a civil engineer and machinist, and as such was, in the month of January, 1848, engaged in making improvements in “turbines” and water-wheels; that this fact was known to the defendant; that the defendant was at the same time Commissioner of Patents; that the plaintiff, in order to see what machinery having in view the same purpose had been theretofore patented, as well to guard himself against any suit by such previous patentees, for any alleged infringement of their said patents, as also to avoid any infringement thereof, and to save himself time, labor, and expense, required copies of certain patents then of record in the Patent Office, and

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which had been theretofore issued to the persons mentioned in the memorandum of January 20 ; that on the 20th day of January, 1848, the said plaintiff applied to the said defendant, as Commissioner of Patents as aforesaid, for copies of the said patents, and tendered himself ready, and " offered to pay the usual fees required by law for copies," and the defendant thereupon, as Commissioner as aforesaid, answered the said application in writing as follows.

To all which evidence so as aforesaid offered by the plaintiff, and to every part thereof, except the said memorandum last above mentioned, the defendant, by his counsel, objects, as inadmissible upon the issue joined, and the court refused to permit the said evidence so objected to to be given ; and thereupon the plaintiff, by his counsel, excepts thereto.

Second Exception.—The plaintiff then read in evidence, without objection, the memorandum made by the defendant, dated January 20, 1848, and then gave evidence tending to show that on or about the 22d day of December, 1847, J. J. Greenough, by authority of the plaintiff, called at the Patent Office to obtain for him copies of three several patents, which had theretofore been issued by said office for " turbines" or " water-wheels" ; that he was referred by the clerk to whom he applied to the defendant, and informed defendant that he had been requested by the plaintiff to obtain for him copies of those patents, and defendant refused, saying he would not have anything to do with Mr. Boyden, directly or indirectly, or words to that effect ; and, upon his cross-examination, witness stated that he asked Mr. Burke to give him in writing his reasons for so refusing, which he then and there promised to do ; and, some days after, the witness received a letter from the defendant containing those reasons, which letter he had transmitted to the plaintiff ; and then, upon cross-examination, the counsel for the defendant called upon the plaintiff to produce said letter, and the plaintiff, admitting he had said letter then in court, refuses to produce the same,

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on the ground that the said letter, if produced, would not be evidence ; but the court overruling the objection of the defendant, ordered the same to be produced, and thereupon the said letter was produced by the plaintiff ; and the defendant, by his counsel, offers to read the same in evidence, and the plaintiff, by his counsel, objects thereto, but the court permits the same to be read in evidence, and it is read accordingly, as follows ; and the plaintiff, by his counsel, excepts thereto, &c.

Third Exception.—And here the plaintiff rested ; and thereupon the defendant offered to read in evidence a letter addressed to him by the plaintiff, dated 14th of December, 1847, and also a letter from plaintiff to J. J. Greenough, which, it is admitted, is the same letter referred to in the testimony of said Greenough, as containing the authority under which he applied for the copies of patents, as testified by him in his examination by the plaintiff, which letter bears date the 14th of December, 1847, to the admissibility of which said letters, or either of them, as evidence in this cause, the plaintiff, by his counsel, objects, and the court overrules the said objection, and permits both of said letters to be read in evidence ; and the handwriting of the plaintiff thereto being admitted, the same are read accordingly, and the plaintiff, by his counsel, excepts thereto, &c.

Fourth Exception.—And thereupon, and upon the whole evidence aforesaid, the defendant prayed the court to instruct the jury, that upon the evidence aforesaid, if the same is believed by the jury, the plaintiff is not entitled to recover in this action ; which instruction the court gave, and the plaintiff, by his counsel, excepts thereto, &c.

Upon these exceptions, the case came up to this court, and was argued by *Mr. Bradley*, for the plaintiff in error, and by *Mr. Coxe*, for the defendant in error.

Mr. Bradley contended that the Circuit Court erred in each one of the above rulings.

Argument of counsel.

First. The defendant was, by law, bound to give the copies asked for, if they could be made consistently with the public interest.

1. The Patent Office is, for certain purposes, an office of public record, in like manner as the office in which the titles to real property are recorded :

From the very name, the object, the nature of the contract between the government and the patentee, the effect of the granting the patent as to the right granted, and the notice implied, the manner in which the title is secured, and by which a right under it is to be transferred, the necessity to prevent litigation, to prevent conflicts, to avoid the expenditure of time and money.

2. For like reasons, if no provision were made by law for copies, still the keepers of those records should be bound to give them.

3. The original statute, and each successive one, made provision for such copies. Act 10th of April, 1790, 1 Stat. at Large, 109, secs. 1, 2, 3 ; act 21st of February, 1793, *Id.* 318, secs. 1, 4, 11 ; act 4th of July, 1836, 5 Stat. at Large, 118, secs. 4, 5, 11 ; act 3d of March, 1837, *Id.* 191, secs. 1, 2, 12 ; act 3d of March, 1839, *Id.* 353, secs. 2, 8 ; act 29th of August, 1842, *Id.* 542, secs. 2, 6.

The law, in terms, provides copies in cases in which they are to be used as evidence, and makes them evidence. It does not stop here, but directs copies of the records, drawings, and other papers deposited in the office, to be given to any person making application for them, on their paying certain fees therefor.

It requires a record of the claim, specification, drawings, the patent therefor, and the assignment thereof. It imposes heavy penalties upon an infringement of the patent, and makes these records notice of the particulars of the right granted.

Its design, in authorizing copies to every person applying for them, is obvious ; that is, protection against the danger of incurring these penalties. The reason for requiring copies in such cases, is obviously the same as that which

Argument of counsel.

requires them to be given in cases of contest. Prevention is often better than redress.

Second. The duty was purely ministerial, involving no discretion ; and it will be further contended—

1. The general proposition, that, for a refusal by a public officer to do a mere ministerial act, to the injury of another's right, an action will lie.

2. The injury is to be compensated in damages, and if the officer has acted in good faith, the measure of damages is the actual injury sustained ; if he has acted wilfully, maliciously, corruptly, or by color of his office, with intent to injure, the party injured will be entitled to recover such damages as the jury may see fit to give.

As to the first branch of this second point, Tracy & Bal-
lestier v. Swartwout, 10 Pet. 80 ; 9 How. 259.

As to the second branch, Huckle v. Money, 2 Wils. 205 ;
Beardmore v. Carrington, *Id.* 244 ; Dinsman v. Wilkes, 12
How. 401-406 ; Day v. Woodworth, 13 How. 371.

Third. Evidence is admissible, in this last case, to show that the officer knew the nature of the injury he was inflicting, and therefore it was competent for the plaintiff to give in evidence the facts stated in plaintiff's bill of exceptions, not as indicating a measure of damages, but to give the jury some knowledge of the nature, character, and degree of the injury, as a guide in forming an estimate of the extent to which they might rightfully go in inflicting punitive as well as compensatory damages. Marest v. Harveg, 5 Taunt. 442 ; Woert v. Jenkins, 14 Johns. 352 ; Whipple v. Walpole, 10 N. H. Rep. 130 ; [Stimpson v. Railroad] Wallace, Jr., 164 ; and cases under second point.

Fourth. The letter written by the defendant to Mr. Greenough, set out in the second bill of exceptions, was not in evidence for any purpose.

1. Mr. Greenough had no authority to require it.

2. It was but an amplification of his first refusal, and not explanatory of it.

3. It was the party's own letter, offered in evidence by himself, not originally called for by plaintiff, and not in

Argument of counsel.

any manner admitted or acquiesced in by him. *Farlie v. Denton*, 3 C. & P. 103 ; 14 E. C. L. R. 227, 228 ; *Healey v. Thatcher*, 8 C. & P. 338 ; 34 E. C. L. R. 442 ; *Whitford v. Buckmeyer & Adams*, 1 Gill, 127, 140 ; *Van Buren v. Digges*, 11 How. 461, 477 ; *Towle v. Stevenson*, 1 Johns. Ca. 112 ; *Champlin v. Tilley*, 3 Day, 306 ; *Antoine v. Coit*, 2 Hall, (N. Y.,) 40, 46, 47.

Fifth. The letter to the defendant, set out in the third bill of exceptions, was not evidence for the defendant for any purpose. The letter from the plaintiff to Mr. Greenough was admissible to show his authority from the plaintiff, and shows conclusively that he had no authority to ask for or to receive defendant's written statement, set out in the second exception.

But the letter written by plaintiff to defendant, on the 14th of December, 1847, was not evidence in mitigation of his refusal on the 22d of December, 1847, or on the 2d of January, 1848 ; and it could have been admissible for no other purpose.

That letter would have reached here on the 18th of December, 1847, at furthest, by due course of mail, and the defendant had abundant time to get cool before the 22d of that month.

The refusals were both given deliberately, wilfully, with the intent to punish, that is, to injure the plaintiff, and the malice is so much the greater.

Mr. Coxe, for the defendant in error, made the following points :

1. That the Circuit Court ruled according to law on all the points raised in the bills of exception.
2. That the action is founded upon a misconception of the fourth section of the act of Congress of July 4, 1836.
3. That if the plaintiff's case is embraced by that section, the evidence in the record furnishes a complete justification of the acts of defendant.
4. That the declaration sets forth no legal cause of action.

Opinion of the court.

Mr. Justice GRIER delivered the opinion of the court.

The bills of exception taken by the plaintiff to the rejection and admission of testimony on the trial have not been supported.

The declaration charges that the defendant Burke was Commissioner of Patents, and as such was bound to grant to applicants therefor copies of patents, &c., on payment of fees; that the plaintiff tendered the customary fees and demanded copies of certain patents, which defendant refused to give him, to the damage of plaintiff ten thousand dollars, &c.

As no special damage is alleged, the court very properly refuse to receive evidence tending to prove it.

A demand for certain copies was made through the agency of Mr. Greenough, but accompanied with a letter from plaintiff to defendant, requesting him to deliver the copies to Mr. Greenough. This letter, with the answer of defendant thereto, was properly received as part of the *res gesta*, or as a conversation between the parties, reduced to writing.

A bill of exceptions was also taken to the charge of the court, who instructed the jury, "that, upon the evidence before them, the plaintiff was not entitled to recover."

As the plaintiff had shown a demand of the copies, with tender of fees, and a refusal of defendant, he had made out his case as laid in his declaration, and was entitled to a verdict for nominal damages, unless by law he was not entitled to demand such copies, or defendant had shown a sufficient excuse for refusing them. Patents are public records. All persons are bound to take notice of their contents, and consequently should have a right to obtain copies of them. The Patent Law of 1836, section four, enacts that "any person making application therefor may have certified copies," &c. These records being in the care and custody of the Commissioner of Patents, it is his duty to give authenticated copies to any person who shall demand the same, as soon as he conveniently can, on payment of the legal fees. Where there is a right on the one side, and a

Order.

corresponding duty imposed on the other, a refusal to perform such duty, on the reasonable request of the party entitled to demand it, will subject the officer to an action. But the party entitled to such services must request it in a proper manner. He has no right to accompany his demand with personal insult, or vulgar abuse of the officer. Those to whom the people have committed high trusts are entitled at least to common courtesy, and are not bound to submit to the insolence or ill temper of those who disregard the decencies of social intercourse. A demand accompanied with rudeness and insult is not a legal demand. The letter accompanying the plaintiff's demand in this case was taunting, insulting, and libellous, indicating a want of taste and temper. And if the case had rested here, we could have found no fault with the instruction of the court. But the plaintiff showed another demand, some two weeks after the first, by his agent, which was made in a proper manner, and unaccompanied with any insulting missive. The defendant was not justified in refusing this demand on account of the former misconduct of the plaintiff, or to enforce an apology by withholding his rights. Ill manners or bad temper do not work a forfeiture of men's civil rights. While the want of an apology for his previous rudeness and insult might well justify the defendant in refusing all social intercourse with the plaintiff, yet it could not release him from the obligations imposed upon him by his official station, or entitle him to disregard the rights guaranteed to the plaintiff by the laws of the land.

The court below erred, therefore, in not instructing the jury, that, if they believed the testimony, the plaintiff was entitled to a verdict for nominal damages.

The judgment is reversed, and a *venire de novo* awarded.

ORDER. This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the District of Columbia, holden in and for the county of Washington, and was argued by counsel; on consideration whereof, it is now here ordered and adjudged

Notes and Citations.

by this court, that the judgment of the said Circuit Court in this cause be, and the same is hereby, reversed with costs ; and that this cause be, and the same is hereby, remanded to the said Circuit Court, with directions to award a *venire facias de novo*.

REVERSED WITH COSTS.

Note :

3. Patent Office Records. What are public application files.

Loom Co. *v.* Higgins, 105 U. S. 580.

Reissue application files :

Manufacturing Co. *v.* Corbin, 103 U. S. 786.

IN TEXT-BOOKS :

2 Abb. Pat. Law, 1886, pp. 22, 23, 27.

Walker on Pats., 1883, p. 134.

Syllabus.

HENRY O'REILLY, EUGENE L. WHITMAN, AND
W. F. B. HASTINGS, APPELLANTS, v. SAMUEL
F. B. MORSE, ALFRED VAIL, AND FRANCIS O.
J. SMITH.

15 How. 62-187. Dec., 1853.

[Bk. 14, L. ed. 601 ; 1 Whit. 763.]

Date of prior publication. Foreign patent. Particular patentee first and original inventor. Date of invention. Notice of special matter. Prior foreign knowledge. Suggestions. Failure to notice foreign patent in U. S. patent. Patenting a principle. Specification part of patent. Disclaimer. Delay in filing. Failure to disclaim. Improvement. Particular reissues sustained.

1. Where certain English patents were introduced to establish priority of invention over a domestic patent, *held* that they must take date from the time of filing their specifications, and not of sealing (p. 622).
2. Morse held the first and original inventor of the invention in No. 1647, June 20, 1840 ; reissued No. 79, January 15, 1846, and No. 117, June 13, 1848, Electric Telegraph, and was not anticipated by the prior European inventions relied on (p. 623).
3. Where it was established by the testimony of witness and others that the inventor had invented his plan at a certain date, although not disclosed to the witness until afterward ; and there was reasonable ground for believing it so far completed in his mind, that the delay in bringing it out arose from want of means, *held* that the invention was entitled to take date from such time, and was not anticipated by publications subsequent thereto (p. 624).
4. The Appellate Court cannot go outside of the record for evidence (p. 625).
5. Appellants cannot be allowed to surprise patentee by evidence of a prior invention of which they gave him no notice (p. 625).
6. When the patentee believes himself to be the first inventor, a

Syllabus.

previous discovery in a foreign country cannot render his patent void, unless the discovery, or some substantial part of it, had been before patented or described in a printed publication (p. 625).

7. The fact that the inventor sought and obtained the necessary information and counsel from the best sources, and acted upon it, neither impairs his rights as an inventor nor detracts from his merit (p. 626).
8. The identity of the original patent, No. 1647, and its reissue, No. 117, sustained in view of the presumption in favor of the same raised by its reissue by the proper lawful authority, nothing appearing to the contrary, and because the variation in the reissue description from that in the former specification does not necessarily imply that it is for a different discovery (p. 627).
9. Patent No. 1647, reissue 117, held not void for failure to bear the same date with the prior French patent (p. 627).
10. The question whether the filing of the United States application prior to the grant of the French patent for the same invention exempted the subsequently granted domestic patent from limitation to the term of the prior foreign patent, raised but not decided (p. 627).
11. Reissue 117, June 13, 1848, to S. F. B. Morse, claim 8, construed to be for the exclusive right to use a manner and process which he had neither invented nor described; it is for a principle, and held too broad and void (p. 628).
12. Patenting a principle. English and American cases reviewed (p. 630).
13. The specification is a part of the patent (p. 636).
14. The law which requires and permits patentee to disclaim, is not penal but remedial. (Act 1837, § 7) (p. 639).
15. Where a claim has been allowed and held valid by a circuit court, there is no unreasonable delay in filing a disclaimer, until the highest court to which it could be carried has pronounced its judgment (p. 639).
16. Omission to disclaim does not render the patent altogether void, and patentee is entitled to proceed for infringement of the valid part of his invention, but he cannot recover costs, although infringement be proved (p. 639).
17. Patent No. 4453, April 11, 1846, reissue, 118, June 13, 1848,

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- to Morse for Electric Telegraph (Morse Register), *held* not invalidated because embraced in void claim 8 of reissue, 117 (p. 640).
18. It is also patentable as an improvement in a new patent, in place of being annexed to his former specification, under Act 1836, § 13 (p. 640).
 19. The patentee of an improvement on an older patented invention is not bound in his new patent to refer specifically to his former one (p. 640).
 20. Change in form which does not constitute invention (p. 642).
 21. The two Morse reissues, Nos. 117 and 118, sustained and held infringed (p. 643).

[Citations in the opinion of the Court :]

- (1) Electric Tel. Co. v. Brett & Little, 10 Com. Pleas R., p. 625.
- (2) Neilson v. Harford, 8 M. & W. 806, p. 631.
- (3) Le Roy v. Tatham, 14 How. 156 ; p. 813, *ante*, p. 634.
- (4) Wyeth v. Stone, 1 Story, 270, 285, p. 635.
- (5) Blanchard v. Sprague, 3 Sumn. 540, p. 635.

[In Dissenting Opinion :]

- (6) Curtis on Patents, 80, p. 651.
- (7) Juhr v. Pratt, Webs. Pat. Cases, 103, p. 652.
- (8) Kneass v. Schuylkill Bank, 4 Wash. 19, p. 652.
- (9) McClurg v. Kingsland, 1 How. 204 ; 4 Am. & Eng. 382, p. 652.
- (10) Le Roy v. Tatham, 14 How. 177, p. 653.

(Mr. Justice CURTIS, having been of counsel, did not sit in this cause.)

THIS was an appeal from the Circuit Court of the United States for the District of Kentucky, sitting as a court of equity.

It is difficult to make a fair report of this case without writing a book. The arguments of counsel would fill a volume by themselves.

The history of the case was drawn up by the learned judge who presides over the District Court of the United States in Kentucky, and whose decree was under review. Permission has been given, by Judge Monroe, that the reporter may use his statement as preliminary to this report; and he avails himself with pleasure of this kindness; because, although the narrative is occasionally interspersed

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with the opinions which induced the judge to decree an injunction in favor of Morse, yet the history is given with great precision and clearness.

The following statement is extracted from the opinion of Judge Monroe :

The complainants, in their bill, allege that Samuel F. B. Morse, one of them, was the true and original inventor of the electro-magnetic telegraph, worked by the motive-power of electro-magnetism, and of the several improvements thereon, by which intelligence which is in one place is transmitted to other distant places, and that by the letters patent of the United States duly issued to him, Samuel F. B. Morse, and by his partial assignments to F. O. J. Smith and Alfred Vail, the other complainants, they together are lawfully invested with the exclusive right of constructing and employing such telegraph for such purpose, throughout the United States, for the terms in the letters patent mentioned, and which have not yet expired, and they exhibit the letters patent.

They show that the practicability and great utility of the invention was fully established by the telegraph constructed under the superintendence of Morse, by means of an appropriation made by the Congress of the United States for the purpose, and put in operation between the cities of Washington and Baltimore, in the year 1844.

That afterward there had been constructed, by the agency and means of joint-stock companies, promoted by the complainant, and operating under contracts and license of the patentee, Morse and his assignees, telegraphs along lines, amounting, in the aggregate, to upward of four thousand five hundred miles, whereby telegraphic communication was established between the principal cities of the United States, from New Orleans to Boston ; and that there were now in progress of construction numerous additional and other lines, under contracts with them, for more widely extending the benefits of the invention, and they believe that if they are protected in the lawful use of their rights, every section of the United States will, in a short time, have the

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benefits of their improvements in telegraphic correspondence.

They represent that in all the lines of telegraphic communication now in successful operation in the United States in transmitting intelligence by means of electro-magnetism, the improvement of S. F. B. Morse, or the chief and essential principles and parts thereof, are employed.

They show that they have caused to be established, a line of telegraphic communication from Louisville, by way of Frankfort and Lexington, to Maysville, Ky., which was in successful operation.

They represent that they had caused to be constructed, lines of posts and wires from Louisville, in the district of Kentucky, by way of Bardstown, Glasgow, and Scottsville, in Kentucky, and thence by way of Gallatin to Nashville, in the district of Tennessee, for the transmission of intelligence by means of their improved telegraph ; and that they had expended great sums of money therein ; and that this line is in the extension to New Orleans, State of Louisiana ; and is connected by another line with Memphis, Tennessee ; and that large sums of money will be expended in this work ; and all the lines in a short time completed, and the assignments.

They represent that their rights have been repeatedly and explicitly acknowledged and admitted in divers ways, and by individuals and large bodies of associated citizens in various sections of the United States ; that these had treated with them for the purchase of their rights, or parts thereof, and of licenses to use their patented improvements ; and that they had made extensive sales, or licenses to use them, to companies and individuals upon various lines, and among others to the New York, Albany, and Buffalo line ; the Washington and New York line ; the New York and Boston line ; the Washington and Petersburg line ; the line from Petersburg to New Orleans, besides numerous shorter and side lines.

They state that they had been thus in the successful and uninterrupted exercise of the rights granted to them by the

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letters patent of the United States, and had been in nowise disturbed therein, until, by the operations of the defendant, O'Reilly, and the committing of the wrongs presently mentioned, by him and his co-defendants.

This defendant, O'Reilly, they state, had, as early as 1845, entered into a contract with the complainants, and another, then having an interest in the patent, whereby he, O'Reilly, acknowledged their right; and that he had afterward, in various ways and for a long period of time, manifested his acquiescence in, and admissions of, the rights and privileges of them, the complainants, and even insisted on his right to the use of them himself under his contract with them; that he had, under this contract and his claims under it, in fact, used and employed the improved telegraph of the complainants, and persisted in such, his claim, to employ it on all the lines embraced by his contract, without questioning the validity of their patents. But

They allege that this defendant, Henry O'Reilly, had, by himself, his agents and servants, constructed a line of posts and suspended metallic wires thereon, from the city of Louisville, in the district of Kentucky, by way of Bardstown to Nashville, in the State of Tennessee, and well knowing all the facts by the complainants set forth, he and his co-defendants had worked and employed upon said line a telegraph substantially the same with the electro-magnetic telegraph invented by the complainant Morse, and in his patents mentioned, against the will and without any authority from them, the complainants. They show that the terms of the contract under which O'Reilly claimed their right to the use of the telegraph, on certain other lines where he employed it, did not extend to any country north of the Ohio River, and that there was no color for any claim by the defendants to the use thereof within the district of Kentucky, or on any part of the lines by them lately constructed.

They represent especially that the defendants, in the operation and working of their line of telegraph, so by

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them constructed, used and employed instruments, apparatus, and means which are, in the material, substantial, and essential parts thereof, so upon the principle and plan of the said several improvements patented by the complainant Morse, or the plan and principle of some of said improvements, and not other or different. And

They state that by such means the defendants, their servants and agents, had been, for the space of more than four months past, and were still, transmitting intelligence over said line for any person who desired the same; and for such service had been, and are yet, receiving compensation from the persons for whom the same is performed; all which they allege is in violation of the rights granted by the letters patent, or of some of the parts thereof.

They further represent that the defendant O'Reilly was extending the line from Nashville to New Orleans, and had extended it to Memphis, and was operating upon the last-mentioned line to Memphis, in violation of the rights of them, the complainants, by the use of their patented improvements, or the principal and essential parts thereof; and that he had declared his intention of completing the other line from Louisville to New Orleans, and of then employing the same instruments as he was then using on the line from Louisville to Nashville.

They state that they are informed that the defendants sometimes give out, in speeches, that the patents of the complainant Morse are void; and at other times, give out and pretend that the machinery and apparatus which they use for the transmission and the reception of the intelligence upon the said line is a distinct and separate invention, which they, the complainants, are informed the defendants call the *Columbian Telegraph*:

Whereas, the complainants charge that the patents are good and valid in law, and that the defendant O'Reilly, by his contract with the patentee, and by his having exercised, and his persisting in his claim to exercise, under it, the

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exclusive privileges by the patents granted, is estopped from denying their validity. And

That the said pretended new invention is, in its essential principles, identical with and upon the plan of the patented improvements of Morse, and that the use of the same is a violation and infringement of the patent issued to the complainant Morse.

They allege that the defendants had received, and were then receiving, considerable sums of money for transmitting intelligence on the line from Louisville, within the district of Kentucky, in violation of the rights of the complainants; and they complain that the defendants had, by their unlawful operations, greatly disturbed them in the lawful exercise of their rights, so granted and held by them, and had caused a great diminution of the business of them, the complainants, on their line of telegraph, which they had caused to be constructed, and had now in operation within the district of Kentucky; and that the defendants refused to desist from such violation of the complainants' rights. Wherefore,

The complainants pray that the defendants, by an order, and the process of the court, may be enjoined from hereafter using or employing such telegraphs in the violation and infringement of the rights of them, the complainants, within the district of Kentucky; that they may be compelled to account for the money received by them, in consideration of their unlawful operations and wrongful exercise of the rights, privileges, and property of the complainants; and that, on due proceeding and final hearing, such order of injunction may be made final and effectual, and that the complainants may have such other relief as their case may require. And

They propound numerous interrogatories, framed on all the material allegations of the bill, and pray that each defendant may be compelled to answer, on his oath, such as are for him designated, and to this end, and that they may have the relief which shall be adjudged them, they pray the writ of *subpœna*.

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Answer and Grounds of Defence.

The defendants appeared by their counsel, and admitted that they had sufficient notice. O'Reilly read his answer to the complainants' bill.

The respondent admits the contract with the complainants of 1845, stated in the bill, and seems to admit that he had used, under it, portions of the "machine or combinations" described in the patent to Mr. Morse of 1840; but denies he had used others under this contract.

He says he was not scientific, and had not seen the patent until after the complainants had alleged he had forfeited his contract, and instituted a suit to have it vacated; and insists that he is not estopped to deny the validity of the patents.

He sets up no defence under this contract, and disclaiming any license from the complainants in respect to the line of telegraph in question, answers, that he believes, on grounds which he sets forth, that Mr. Morse is not the original and first inventor of the telegraph described in his patents, and insists that his patents are, on that ground, and upon their face, and for other causes he states, null and void.

He admits the construction and operation of the lines of telegraph in Kentucky and elsewhere, by himself and others; but, denying that the instruments employed on them are within the description of the complainants' patents, even on the supposition of their validity, denies the infringement.

But other grounds of defence, not presented by the answer, were assumed in the argument; and the matter of the answer will be more fully stated under the several heads of the whole defence. The defendants all united in opposition to the motion.

The parties respectively read, without objection, a great mass of documentary proof, in support of their positions, and a model of the telegraph described in the letters patent to Mr. Morse, and of the telegraph employed, and proposed to be employed, by the defendants, was exhibited and sub-

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jected to the application of the proofs, the explanation of the parties, and the inspection of the tribunal.

The grounds of defence presented by the answer of O'Reilly, and assumed on the proofs, will be comprehended under these heads of primary division :

I. The complainant Morse was not the true and original inventor of this telegraph.

II. The letters patent to him are null and void upon their face, and for other causes *dehors*.

III. The telegraph constructed and employed by them, the defendants, is substantially and in law different from the telegraph described in the letters patent to Morse, and of which he can lawfully claim the exclusive employment ; and, therefore, on the supposition of the validity of the patents to any extent, there has been no infringement.

IV. The case on the pleadings and proofs is not one, whatever might be considered of it on a final hearing of the bill, which will justify an order for injunction presently.

These subjects in their order.

Is Mr. Morse the original inventor of this telegraph, and of the several improvements thereon described in his letters patent ?

It is necessary that we now ascertain and settle what is the thing which was invented ; and to this end it will be most convenient to begin at its conception, and accompany it in its progress down to its present state of apparent maturity and completeness.

History of the Invention.

Its conception is fixed by Mr. Morse himself in October, 1832, on board the packet-ship *Sully*, on her passage from Havre, France, to New York.

He says that he was by profession a historical painter, and had, in 1829, gone to Europe for perfecting himself in that art ; that on his return home, in October, 1832, there were among the passengers in the ship the Hon. William C. Rives, Minister of the United States to the Court of France, Dr. C. T. Jackson, James Fisher, Esq., of Phila-

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delphia, William Constable, Esq., and other gentlemen of extensive reading and intelligence ; and that soon after the voyage commenced the then experiments and discoveries in relation to electro-magnetism, and the affinity of electricity to magnetism, or their probable identity, became a subject of conversation.

In the course of this discussion, it occurred to him, that, by means of electricity, signs representing figures, letters, or words might be legibly written down at any distance, and that the same effect might be produced by bringing the current in contact with paper saturated with some saline solution. These ideas took full possession of his mind, and during the residue of the voyage he occupied himself, in a great measure, in devising means of giving them practical effect.

Before he landed in the United States, he had conceived and drawn out, in his sketch-book, the form of an instrument for an electro-magnetic telegraph, and had arranged and noted down a system of signs composed of a combination of dots and spaces, which were to represent figures ; and these were to indicate words to be found in a telegraphic dictionary, where each word was to have its number. He had also conceived and drawn out the mode of applying the electric or galvanic current, so as to mark signs by its chemical effects.

This is the account of the inventor himself ; but it is supported by the testimony of disinterested witnesses.

Mr. Rives, under date of September 27th, 1837, addressing himself to Mr. Morse, says :

“ I remember perfectly that you explained to me the idea of your ingenious instrument, during the voyage which we made together in the autumn of 1832. I also remember, that, during our many conversations on this subject, I suggested several difficulties to you, and that you obviated them with promptness and confidence.”

Captain Pell, the commander of the ship, says, on the same day, addressing himself to Mr. Morse :

“ When I examined your instrument, a few days since,

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I recognized in it the same mechanical principles and arrangements which I had heard you explain on board of my vessel in 1832."

And it appears, by the depositions of two brothers of Mr. Morse, that on their meeting him on board the ship, immediately she had moored at New York, the greeting had hardly passed between the three brothers, and before they had reached the house of one of them, which they immediately proceeded to from the ship, he announced to them his discovery, and told them that he had, during his voyage, made an important invention, which had occupied almost all his time on shipboard,—one that would astonish the world, and of the success of which he was perfectly sanguine; and that he said this invention was a means of communicating intelligence by electricity, so that a message could be written down in characters, in a permanent manner, at any distance; and he took from his pocket and showed them, in his sketch-book, a representation of his invention.

And this was the invention in October, 1832.

Mr. Morse further says:

"Immediately after his landing in the United States he communicated his invention to a number of his friends, and employed himself in preparations to prove its practicability and value, by actual experiment. To that end, he made a mould, and cast, at the house of his brother, in New York, before the commencement of the year 1833, a set of type representing dots and spaces, intended to be used for the purpose of closing and breaking the circuit in his contemplated experiments."

And this statement is also supported by other testimony.

But he was unable to proceed, for the want of money to purchase the materials for a galvanic battery and wire, and was compelled for subsistence to return to his pencil; and having been led in pursuit of employment from place to place, from 1832 to the latter part of 1835, he had no opportunity of making experiments of his invention. But he affirms he never lost faith in its practicability, or abandoned

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his intention of testing it as soon as he could command the means.

"In 1835, he was appointed professor in the New York City University, and about the month of November, in that year, occupied rooms in the University buildings. Here he immediately commenced, with very limited means, to experiment upon his invention.

"His first instrument was made up of an old picture or canvas frame fastened to a table; the wheels of an old wooden clock, moved by a weight, to carry the paper forward; three wooden drums, upon one of which the paper was wound, and passed thence over the other two; a wooden pendulum, suspended to the top piece of the picture or stretching frame, and vibrating across the paper as it passed over the centre wooden drum; a pencil at the lower end of the pendulum, in contact with the paper; an electro-magnet, fastened to a shelf across the picture or stretching frame, opposite to an armature made fast to the pendulum; a type rule and type for closing and breaking the circuit, resting on an endless band composed of carpet-binding, which passed over two wooden rollers moved by a wooden crank, and carried forward by points projecting downward into the carpet-binding; a lever, with a small weight on the upper side, and a tooth projecting downward at one end, operated on by the type and a metallic fork, also projecting downward over two mercury cups; at the other end, a galvanic battery of one cup, and a short circuit of wire embracing the helices of the electro-magnet, connected with the positive and negative poles of the battery, and terminating in the mercury cups.

"When the instrument was at rest, the circuit was broken at the mercury cups. As soon as the first type in the type rule (put in motion by turning the wooden crank) came in contact with the tooth on the lever, it raised that end of the lever, and depressed the other, bringing the prongs of the fork down into the mercury, thus closing the circuit. The current passing through the helices of the electro-magnet, caused the pendulum to move, and the

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pencil to make an oblique mark upon the paper, which in the meantime had been put in motion over the wooden drum. The tooth in the lever falling into the space between the first two types, the circuit was broken when the pendulum returned to its former position, the pencil making another mark as it returned across the paper. Thus, as the lever was alternately raised and depressed by the points of the type, the pencil passed to and fro across the strip of paper, passing under it, making a mark resembling a succession of V's, the points only of which, however, were considered as telegraphic signs. The spaces between the types caused the pen to mark horizontal lines, long or short, in proportion to their own length.

"With this apparatus, made as it was, and completed before the first of the year 1836, he was enabled to mark down intelligibly telegraphic signs; and having arrived to that point, he exhibited it to some of his friends early in that year, and first of all to Professor Leonard D. Gayle, who was a colleague professor in the university.

"Here was an actual operation of the instrument, and a demonstration of its capacity to accomplish the end of the invention."

And this statement is fully supported by the affidavit of Dr. Gayle. He says :

"That in the month of January, in the year one thousand eight hundred and thirty-six, I was a colleague professor, in the University of the city of New York, with Professor Samuel F. B. Morse, who had rooms in the University buildings, on Washington square, in said city; that during said month of January of the year aforesaid, the said Professor Morse invited me into his private room in the said university, where I saw, for the first time, certain apparatus, constituting his electro-magnetic telegraph. The invention, at that time, consisted of the following pieces of apparatus."

Here the witness gives a full description of the apparatus, and of its operation, and of the result; and this result was the making of the permanent and legible record.

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And this was the state of the invention in January, 1836.

Thus far it had not been ascertained what was the limit of the magnetic power, and therefore it was not known on what length of wire it would be found of sufficient force to make the record, and there had been no means devised of extending the operation, further than the magnetic current of one battery would be effectual. But this matter had not escaped the attention of Mr. Morse, and he had been devising means for the supply of whatever defect might be found in this respect.

He says : " Early in 1836 he procured forty feet of wire, and putting it in circuit, found that his battery of one cup was not sufficient to work his instrument. This result suggested to him the probability that the magnetism to be obtained from the electric current would diminish in proportion as the circuit was lengthened, so as to be insufficient for any practical purpose at great distances ; and to remove that probable obstacle to his success, he conceived the idea of combining two or more circuits together, each with an independent battery, making use of the magnetism of the first to close and break the second ; that of the second to close and break the third ; and so on.

" His chief concern, therefore, in his subsequent experiments, was to ascertain at what distance from the battery sufficient magnetism could be obtained to vibrate a piece of metal to be used for that purpose, knowing that if he could obtain the least motion at the distance of eight or ten miles, the ultimate object was within his grasp."

A mode of communicating the impulse of one circuit to another, analogous to the receiving magnet now in use, was matured early in the spring of 1837, and then exhibited to Professor Gayle, his confidential friend.

And this statement is also fully confirmed by the statement of Dr. Gayle. He says :

" It was early a question between Professor Morse and myself, where was the limit of the magnetic power to move a lever ? I expressed a doubt whether a lever could be moved by this power at the distance of twenty miles, and

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my settled conviction was, that it could not be done with sufficient force to mark characters on paper at 100 miles distance. To this Professor Morse was accustomed to reply, 'If I can succeed in working a magnet ten miles, I can go around the globe.' The chief anxiety, at this stage of the invention, was to ascertain the utmost limits at which he, Morse, could work or move a lever by magnetic power. He often said to me, 'It matters not how delicate the movement may be, if I can obtain it at all, it is all I want.' Professor Morse often referred to the number of stations which might be required, and which he observed would add to the complication and expense. The said Morse always expressed his confidence of success in propagating magnetic power through any distance of electric conductors which circumstances might render desirable. His plan was thus often explained to me: 'Suppose,' said Professor Morse, 'that in experimenting on twenty miles of wire, we should find that the power of magnetism is so feeble that it will but move a lever with certainty a *hair's-breadth*, that would be insufficient, it may be, to write or to print, yet it would be sufficient to close and break another or a second circuit twenty miles further, and this second circuit could be made, in the same manner, to close and break a third circuit; and so on around the globe.'

"This general statement of the means to be resorted to, now embraced in what is called the *receiving magnet*, to render practical writing or printing by telegraph, through long distances, was shown to me more in detail, early in the spring of the year 1837, (one thousand eight hundred and thirty-seven,) and I am enabled to approximate the date very nearly, from an accident that occurred to me, in falling on the ice formed of late snow in the spring of that year.

"The accident happened on the occasion of removing to Professor Morse's rooms in the New York University some pieces of apparatus to prepare a temporary magnet.

"The apparatus was arranged on a plan substantially as indicated in the drawings on sheet 2, accompanying this

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affidavit. Figure 1 is a battery at one terminus of a line of conductors representing twenty miles in length, from one pole of which the conductor proceeds to the helix of an electro-magnet at the other terminus, the helix forming part of the conductor; from thence it returns to the battery, and terminating in a mercury cup *o*, from the contiguous mercury cup *p*, a wire proceeds to the other pole of the battery. When the fork of the lever *c* unites the two cups of mercury, the circuit is complete, and the magnet *b* is charged and attracts the armature of the lever *d*, which connects the circuit of battery 2 in the same manner, which again operates in turn lever *c*, twenty miles further; and so on.

“This I depose and say was the plan then and there revealed and shown to me by the said Professor Morse, and which, so far as I know, has constituted an essential part of his electro-magnetic telegraph from that date till the present time.”

The diagram referred to by the witness is attached to the deposition, and exhibits the combination of the circuits of electricity claimed by Mr. Morse as a part of his invention. Their construction is fully described, and their operation having been witnessed by the deponent, is described in his deposition.

And this was the state of the invention early in the spring of 1837.

It fully appears that the completing of the invention had been retarded by the want of means by Mr. Morse. But in the spring of this year he appears to have been excited by the publication of an account of the invention of a telegraph by two French gentlemen, M. Gouon and Serrel, which it was at first apprehended, from the terms of its announcement, was no other than the electro-magnetic telegraph, but which afterward turned out to be only a form of the common telegraph formerly in use; and he consented to a notice being taken, in one of the newspapers of New York, of his invention, and renewed and increased his exertions to perfect and demonstrate its great superiority and value.

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He was assisted by his fellow-professor, Dr. Gayle, in trying experiments, and in consideration thereof, and of his further assistance in such work, he presented him an interest in the invention ; and by the united work of the two, from April to September, they were enabled to exhibit it in an improved form.

In the latter part of August, Dr. Gayle states, the operations of the instrument were shown to numerous visitors in the university. And he continues :

“ It was on Saturday, the second day of September, 1837, that *Professor Dauberry, of the English Oxford University*, being on a visit to this country, was invited, with a few friends, to see the operations of the telegraph in its then rude form, in the cabinet of the New York City University, where it then had been put up with a circuit of 1,700 feet of copper wire, stretched back and forth in that long room. I well remember that Professor Dauberry, Professor Torrey, and Mr. Alfred Vail were present, among others. This exhibition of the telegraph, although of very rude and imperfectly-constructed machinery, demonstrated to all present the practicability of the invention ; and it resulted in enlisting the means, the skill, and the zeal of Mr. Alfred Vail, who early the next week called at the rooms, and had a more perfect explanation from Professor Morse of the character of the invention.”

“ The doubt to be dispelled in Mr. Vail's mind, as he then stated, and has since frequently stated, was whether the power by magnetism could be propelled to such a distance as to be practically effective. This doubt was dissipated in a few minutes' conversation with Professor Morse ; and I have ever been under the full conviction that it was the means then disclosed by Professor Morse to Mr. Vail, to wit, the plan of repeating the power of magnetism at any distance required, which I have stated, that induced Mr. Alfred Vail and his brother, George Vail, at once to interest themselves in the invention, and to furnish Professor Morse with the means, material, and labor for an experiment on a larger scale.” .

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And this was the state of the invention in September, 1837.

Mr. Morse accordingly proceeded to have constructed a new, larger, and more perfect instrument for exhibition on an application for a patent to Washington.

Caveat.

In the meantime, on the — day of October, 1837, in order to protect his right to his invention, he filed his caveat in the Patent Office.

It is in these words :

“To the Commissioner of Patents.

“The petition of Samuel F. B. Morse * * represents : That your petitioner has invented a new method of transmitting and recording intelligence by means of electro-magnetism, which he denominates the American electro-magnetic telegraph, and which he verily believes has not been known or used prior to the invention thereof by your petitioner. Your petitioner further states, that the machinery for a full, practical display of his new invention is not yet completed, and he therefore prays protection of his right till he shall have matured the machinery ; and desires that a caveat for that purpose may be filed in the confidential archives of the Patent Office, and preserved in secrecy, according to the terms and conditions expressed in the act of Congress in that case made and provided ; he having paid twenty dollars into the treasury, and complied with other provisions of the said act.

“New York, September 28, 1837.”

These are the specifications annexed to the caveat :

“The nature of my invention consists in laying an electric or galvanic circuit or conductors of any length to any distance. These conductors may be made of any metal, such as copper or iron wire, or strips of copper or iron, or of cords or twine, or other substances, gilt, silvered, or covered with any metal leaf, properly insulated in the ground, or through or beneath the water, or through the air, and by causing the electric or galvanic current to pass

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through the circuit, by means of any generator of electricity, to make use of the visible signs of the presence of electricity in any part of the said circuit, to communicate any intelligence from one place to another.

"To make the said visible signs of electricity available for the purpose aforesaid, I have invented the following apparatus, namely :

"First. A system of signs, by which numbers, and consequently words and sentences, are signified.

"Second. A set of type adapted to regulate and communicate the signs, with cases for convenient keeping of the type, and rules in which to set up the type.

"Third. An apparatus called a port rule, for regulating the movement of the type rules, which rules, by means of the type, in their turn regulate the times and intervals of the passage of electricity.

"Fourth. A register, which records the signs permanently.

"Fifth. A dictionary or vocabulary of words, numbered and adapted to this system of telegraph.

"Sixth. Modes of laying the conductors, to preserve them from injury."

Here is a description of each of the articles of the invention, after which he concludes in these words :

"What I claim as my invention, and desire to secure by letters patent, and to protect for one year, is a method of recording permanently electrical signs, which, by means of metallic wires, or other good conductors of electricity, convey intelligence between two or more places."

The new instrument, which Mr. Morse was enabled to have constructed by his arrangement with Mr. Vail, was completed in the latter end of this year, and in the succeeding February, 1838, it was exhibited in the Franklin Institute at Philadelphia, where it operated with success through a circuit of ten miles of wire ; and a committee of the institute made a report of its success.

It was thence removed to the city of Washington, where it was publicly exhibited in the hall of the House of Repre-

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sentatives, and a committee having been appointed to examine it, made a favorable report, and recommended an appropriation of thirty thousand dollars, to have effectually tested the utility of the invention.

And this was the state of the invention early in the spring of 1838.

Petition for Patent and its Specifications.

The caveat was followed, on the 7th of April, 1838, by the petition of Mr. Morse for the patent. It is to this effect :

“ Be it known, that I, Samuel F. B. Morse, of the city, county, and State of New York, have invented a new and useful machine and system of signs for transmitting intelligence between distant points, by the means of a new application and effect of electro-magnetism, in producing sounds and signs, or either, and also for recording permanently, by the same means and application and effect of electro-magnetism, any signs thus produced, and representing intelligence, transmitted as before named, between distant points, and I denominate said invention the American electro-magnetic telegraph, of which the following is a full and exact description, to wit :

“ It consists of the following parts : First, of a circuit of electric or galvanic conductors from any generator of electricity or galvanism, and of electro-magnets at any one or more points in said circuit.”

Here he gives the several parts of which his invention consisted, and adds a long description of each of them, and then sums up what he had affirmed he had himself invented, in these words :

“ What I claim as my invention, and desire to secure by letters patent, is as follows :

“ 1st. The formation and arrangement of the several parts of mechanism constituting the type rule, the straight port rule, the circular port rule, the two signal levers, and the register lever, and alarm lever with its hammer, as combining respectively with each of said levers, one or more armatures of an electro-magnet, and as said parts are severally described in the foregoing specification.

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"2d. The combination of the mechanism constituting the recording cylinder, and the accompanying rollers and train wheels, with the formation and arrangement of the several parts of mechanism, the formation and arrangement of which are claimed as above, and as described in the foregoing specification.

"3d. The use, system, formation, and arrangement of type and of signs for transmitting intelligence between distant points, by the application of electro-magnetism, and metallic conductors combined with mechanism, as described in the foregoing specification.

"4th. The mode and process of breaking, by mechanism, currents of electricity or galvanism, in any circuit of metallic conductors, as described in the foregoing specification.

"5th. The mode and process of propelling and connecting currents of electricity or galvanism in and through any desired number of circuits of metallic conductors, from any known generator of electricity or galvanism, as described in the foregoing specification.

"6th. The application of electro-magnets, by means of one or more circuits of metallic conductors, from any known generator of electricity or galvanism, to the several levers in the machinery described in the foregoing specification, for the purpose of imparting motion to said levers, and operating said machinery, and for transmitting, by signs and sounds, intelligence between distant points, and simultaneously to different points.

"7th. The mode and process of recording, or marking permanently, signs of intelligence transmitted between distant points, and simultaneously to different points, by the application and use of electro-magnetism or galvanism, as described in the foregoing specification.

"8th. The combination and arrangement of electro-magnets in one or more circuits of metallic conductors, with armatures of magnets, for transmitting intelligence by signs and sounds, or either, between distant points, and to different points simultaneously.

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"9th. The combination and mutual adaptation of the several parts of the mechanism and system of type, and of signs, with and to the dictionary or vocabulary of words, as described in the foregoing specification."

It appears that no objection was found to the issuing of the patent immediately, except that there had not been filed with the specifications a duplicate set of the drawings, and that the Commissioner wrote, in answer to an application for it, to this effect, on the 1st of May.

In England and France.

But Mr. Morse had conceived a hope that he might secure a consideration for the use of his invention in foreign countries, as well as in the United States; and on the 15th of May he returned this answer to the Commissioner, and departed the next day for Liverpool:

"NEW YORK CITY UNIVERSITY, *May 15, 1838.*

"HON. HENRY L. ELLSWORTH—*Dear Sir:* Excuse the delay in answering your letter of the 1st instant, relative to a duplicate set of drawings for my letters patent. May I ask the favor of you to delay issuing the letters patent until you hear from me in Europe, as I fear issuing them here will at present interfere with my plans abroad?

"I sail to-morrow in the ship *Europe*, for Liverpool. Farewell."

In England, a patent was refused to the American inventor, on the ground that some description of his invention—the substance of which will appear hereafter—had been published in the London Magazine.

But he was otherwise received in France.

In the French Academy of Sciences.

He communicated a description of his invention, and exhibited the instrument in operation, before the French Academy of Sciences, on the 10th of September, 1838.

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And this is the account of the invention published in the *Comptes Rendus*, the weekly journal of the academy :

"*Applied Physics*.—Electro-magnetic telegraph of Mr. Morse, professor in the University of New York."

"The instrument has been put in operation under the eyes of the academy. The following is a literal translation of a large portion of the notice delivered by Mr. Morse to the perpetual secretaries :

"Mr. Morse conceives that his instrument is the first practicable application which has been made of electricity to the construction of a telegraph.

"This instrument was invented in October, 1832, while the author was on his way from Europe to America, in the packet-ship *Sully*. The fact is attested by the captain of the ship and several of the passengers. Among the number of the latter was Mr. Rives, the Minister of the United States near the French government.

[Here is given the account of Mr. Rives and Captain Pell, already set out, after which the account proceeds :]

"The idea of applying galvanism to the construction of telegraphs is not new. Dr. Coxe, a distinguished citizen of Philadelphia, makes mention of it in a note inserted by him in February, 1816, in the *Annals* of Dr. Thompson, page 162, first series ; but he did not give any means of effecting it.

"Since the period to which the invention of Mr. Morse's telegraph goes back, other arrangements, founded on the same principles, have been announced, of which the most celebrated are those of Mr. Steinheil, of Munich, and of Mr. Wheatstone, of London. They differ very much in mechanism.

"The American telegraph employs but one circuit.* The following is an abridged description of it :

* "Suppose the places to be put in communication with each other occupy the three angles of a triangle, the four angles of a quadrilateral, or certain points of a line enclosing a space, a single wire passing through all those points would be sufficient, at least according to theory."

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“ At the extremity of the circuit, where the news is to be received, is an apparatus called the register. It consists of an electro-magnet, the wire covering of which forms the prolongation of the wire of the circuit.

“ The armature of this magnet is attached to the end of a small lever, which, at its opposite extremity, holds a pen ; under this pen is a ribband of paper which moves forward as required, by means of a certain number of wheels. At the other extremity of the circuit, that is to say, at the station from which the news is to be sent out, is another apparatus called the port rule ; it consists of a battery or generator of galvanism, at the two poles of which the circuit ends ; near the battery, a portion of this circuit is broken ; the two extremities disjoined are plunged into two cups of mercury near each other.

“ By the aid of a bent wire attached to the extremity of a little lever, the two cups may be, at will, placed in connection with each other, or left separated ; thus the circuit is completed and interrupted at pleasure. The movement of the mechanism is as follows :

“ When the circuit is complete, the magnet is charged ; it attracts the armature, the movement of which brings the pen into contact with the paper. When the circuit is interrupted, the magnetism of the horseshoe ceases, the armature returns to its first position, and the pen is withdrawn from the paper. When the circuit is completed and broken rapidly in succession, mere dots are produced upon the moving paper ; if, on the contrary, the circuit remain complete for a certain length of time, the pen marks a line, the length of which is in proportion to the time during which the circuit remains complete. This paper presents a long interval of blank if the circuit remain interrupted during some considerable time. These points, lines, and blanks lead to a great variety of combinations. By means of these elements, Professor Morse has constructed an alphabet and the signs of the ciphers. The letters may be written with great rapidity by means of certain types which the machine causes to move with exactness, and which give the proper

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movements to the lever bearing the pen. Forty-five of these characters may be traced in one minute.

"The register is under the control of the person who sends the news. In fact, from the extremity called the port rule, the mechanism of the register may be set in motion and stopped at will. The presence of a person to receive the news is, therefore, not necessary, though the sound of a bell, which is rung by the machine, announces that the writing is about to be begun.

"The distance at which the American telegraph has been tried is ten miles English, or four post leagues of France. The experiments have been witnessed by a committee of the Franklin Institute of Philadelphia, and by a committee appointed by the Congress of the United States. The reports of these committees, which we have not copied, are extremely favorable. The committee of Congress recommended the appropriation of thirty thousand dollars."

French Patent, 1838.

A patent was accordingly granted to Mr. Morse, by the French government, but it yielded him no pecuniary profit.

It is dated on the 20th of August, 1838, and was delivered to him on the 30th of October afterward.

But the law of France required the invention to be put into use in two years, and on failure the exclusive privilege of the patentee was forfeited. Mr. Morse had not the means of complying with the condition, and he returned home in 1838, with the hope of inspiring in his own countrymen sufficient confidence in his great invention. But the embarrassed condition of the country caused him to despair of success at that time, and being compelled to betake himself again to his pencil, he made no farther movement until the succeeding year.

American Patent, 1840.

On recurring to his former application for his patent, which had remained on the files of the office, the duplicate set of his drawings were still wanting ; but having supplied

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this, and complied with some other directions of the Commissioner, the patent was issued.

It was sealed, and bears date June 20, 1840.

The specifications filed in 1838, on the application for the patent, are annexed to it as part thereof. These specifications, or so much of them as may be necessary, will be set out hereafter, before or when they become the subject of discussion.

But the confidence of the capitalists in an invention so extraordinary, and one promising such incredible results, could not be inspired, and the patentee was not able, himself, to construct a line of telegraph, and introduce it into actual use, and he again applied to the Congress of the United States. This resulted in the appropriation of thirty thousand dollars, according to the recommendation of the committee in 1838, for the purpose of testing the practicability and utility of the system, under the superintendence of Mr. Morse.

And this resulted in the construction of the line of telegraph from Baltimore to Washington, and a complete demonstration of the practicability and great public utility of his invention.

And this was the state of the invention in June, 1844, twelve years after its conception.

Efforts were then made for the extension and multiplication of its advantages, but difficulties were encountered in the introduction and establishment of an affair of such novelty, and requiring such a large amount of capital, and some time was necessary to overcome them.

The exertions were, however, continued, and with the success which the progress in the establishment of the telegraphs stated in the bill of exhibits.

And in the meantime, as will be presently seen, Mr. Morse continued his exertions to improve and perfect this great invention.

1840 Patent Reissued 1846.

In January, 1846, the specifications of the invention and description of the mode of its operation having been sup-

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posed to be in some respects defective, the patent was surrendered, and a new patent taken out in its stead.

The specifications annexed to this patent will be adverted to hereafter. It will be sufficient for the present to state, that, in the summing up of what the patentee affirmed he had invented, there is found one article corresponding to the fifth and some of the other clauses in the specifications of the patent of 1840. He says :

“ I also claim the combination of two or more circuits of galvanism or electricity, generated by independent batteries, by means of electro-magnetism, as above described.”

It appears that originally the design was that this part of the invention was to be resorted to only in case the galvanic current of one battery should be found insufficient, on a long line, to afford the motive-power necessary to work the register and record the intelligence, and it does not appear that it had been, before this date, ascertained that the one battery and circuit would not be sufficient for any distance.

Patent of 1846 for New Improvement.

But on the 16th of April, 1846, Mr. Morse applied for and obtained another patent for an improvement on his own original invention.

And it appears from his representations, contained in the specifications annexed to this patent, that it had then been ascertained that the galvanic current generated by one battery would be sufficient to continue the electric current on any length of line, and afford sufficient motive-power to open and close the battery ; but that it would not be sufficient at any considerable distance to work the register and make the record, unless this battery was made of great magnitude ; and that by such battery the expense of the operation would be greatly increased.

He had, therefore, contrived what he called a receiver or receiving magnet, worked by a local battery, or battery situated at the place to which the intelligence is trans-

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mitted, by which a second, but short, local circuit, connected with the main circuit, was opened and closed, and sufficient force given to the register to make the record.

The second patent is for this and for other improvements, which he sums up in these words :

“What I claim as my invention, and desire to secure by letters patent, is the receiving magnet, or a magnet having a similar character, that sustains such a relation to the register magnet, or other magnetic contrivances for registering, and the length of the current or telegraphic line, as will enable me to accomplish, with the aid of a main galvanic battery and the introduction of a local battery, such motion or power for registering as could not be obtained otherwise without the use of a much larger galvanic battery.

“I claim as my invention the use of a local battery and magnet, in combination with a battery and magnet connected with the main line or lines of conductors, for the purpose above specified.

“I also claim the combination of the apparatus connected with the clock-work, for setting off the paper and stopping it with the pen lever, M.

“I also claim the combination of the points affixed in the pen lever, with the grooved roller, N, for marking on paper, as above described.”

But on the 13th of June, 1848, on the supposition there were some defects in the specifications of each of these two patents then extant, they were both surrendered and cancelled, and new patents obtained in the stead of each, respectively.

And these are the patents upon which the exclusive right to the employment of the telegraph now before us is claimed by the complainant.

But it is necessary, to a fair and intelligible statement and discussion of the case, that large portions of the schedules be set out in their own words.

Statement of the case.

1840 Patent Reissued 1848.

The patent itself, which is a reissue of the patents of 1846, which was a reissue of the original patent of 20th June, 1840, will be given at length, because the terms of it will be the subject of discussion hereafter, in connection with the statute. It is in the following words :

"The United States of America to all to whom these letters patent shall come :

"Whereas, Samuel F. B. Morse, of Poughkeepsie, New York, has alleged that he has invented a new and useful improvement in the mode of communicating information by signals, by the application of electro-magnetism, for which letters patent were granted on the 20th of June, 1840, which letters patent were surrendered and rescinded on the 15th day of January, 1846, which last letters patent are hereby cancelled, on account of a defective specification, which he states has not been known or used before his application ; has made oath that he is a citizen of the United States ; that he does verily believe that he is the original and first inventor or discoverer of the said improvement, and that the same has not, to the best of his knowledge and belief, been previously known or used ; has paid into the treasury of the United States the sum of fifteen dollars, and presented a petition to the Commissioner of Patents, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose :

"These are, therefore, to grant, according to law, to the said Samuel F. B. Morse, his heirs, administrators, or assigns, for the term of fourteen years from the twentieth day of June, one thousand eight hundred and forty, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used the said improvement, a description whereof is given, in the words of the said Samuel F. B. Morse, in the schedule hereunto annexed, and is made part of these presents."

The schedule annexed is in the words :

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“ To all to whom these presents shall come : Be it known, that I, Samuel F. B. Morse, now of ———, State of New York, have invented a new and useful apparatus for, and a system of, transmitting intelligence between distant points, by means of electro-magnetism, which puts in motion machinery for producing sounds or signs, and recording said signs upon paper or other suitable material, which invention I denominate the American electro-magnetic telegraph, and that the following is a full, clear, and exact description of the principle or character thereof, which distinguishes it from all other telegraphs previously known, and of the manner of making and constructing said apparatus and of applying said system, reference being had to the accompanying drawings, making part of this specification.”

Here follows a description of the instruments and of the mode of their operation, which will be omitted here and adverted to hereafter.

These particular specifications and descriptions completed, the patentee sums up what he intends it should be understood he had and had not invented ; and after disclaiming all pretensions to the invention of what he says was before known, he specifies what he affirms he had himself discovered or invented, and thus designates his improvement or improvements, a description whereof he had just before given in this, his schedule, and which is made part of the patent :

“ First. Having thus fully described my invention, I wish it to be understood that I do not claim the use of the galvanic current, or current of electricity, for the purpose of telegraphic communications generally ; but what I specially claim as my invention and improvement is making use of the motive-power of magnetism, when developed by the action of such current or currents, substantially as set forth in the foregoing description of the first principal part of my invention, as means of operating or giving motion to machinery, which may be used to imprint signals upon paper or other suitable material, or to produce sounds

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in any desired manner, for the purpose of telegraphic communication at any distances.

"The only ways in which the galvanic currents had been proposed to be used prior to my invention and improvement were by bubbles resulting from decomposition, and the action or exercise of electrical power upon a magnetized bar or needle; and the bubbles and deflections of the needles thus produced were the subjects of inspection, and had no power or were not applied to record the communication. I therefore characterize my invention as the first recording or printing telegraph by means of electro-magnetism.

"There are various known modes of producing motion by electro-magnetism, but none of these had been applied prior to my invention and improvement, to actuate or give motion to printing or recording machinery, which is the chief point of my invention and improvement.

"Second. I also claim as my invention and improvement the employment of the machinery called the register or recording instrument, composed of the train of clock-wheels, cylinders, and other apparatus, or their equivalent, for removing the material upon which the characters are to be imprinted, and for imprinting said characters, substantially as set forth in the foregoing description of the second principal part of my invention.

"Third. I also claim as my invention and improvement the combination of machinery herein described, consisting of the generation of electricity, the circuit of conductors, the contrivance for closing and breaking the circuit, the electro-magnet, the pen or contrivance for marking, and the machinery for sustaining and moving the paper, altogether constituting one apparatus of telegraphic machinery, which I denominate the American electro-magnetic telegraph.

"Fourth. I also claim as my invention the combination of two or more galvanic or electric circuits, with independent batteries, substantially by the means herein described, for the purpose of obviating the diminished force of electro-magnetism in long circuits, and enabling me to command

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sufficient power to put in motion registering or recording machinery at any distance.

"Fifth. I claim as my invention the system of signs, consisting of dots and spaces, and of dots, spaces, and horizontal lines, for numerals, letters, words, or sentences, substantially as herein set forth and illustrated, for telegraphic purposes.

"Sixth. I also claim as my invention the system of signs, consisting of dots and spaces, and of dots, spaces, and horizontal lines, substantially as herein set forth and illustrated, in combination with machinery for recording them, as signals for telegraphic purposes.

"Seventh. I also claim as my invention the types, or their equivalent, and the type rule and post rule, in combination with the signal lever, or its equivalent, as herein described, for the purpose of breaking and closing the circuit of galvanic or electric conductors.

"Eighth. I do not propose to limit myself to the specific machinery, or parts of machinery, described in the foregoing specifications and claims; the essence of my invention being the use of the motive-power of the electric or galvanic current, which I call electro-magnetism, however developed, for making or printing intelligible characters, letters, or signs at any distance, being a new application of that power, of which I claim to be the first inventor or discoverer."

1846 Patent Reissued 1848.

This patent is the reissue of the patent of April, 1846, and is for a new and useful improvement in "electro-magnetic telegraphs." It grants the exclusive use to the patentee for the term of fourteen years from the eleventh day of April, 1846, and refers in the common form to the schedule annexed for the specifications of the improvement.

This schedule is in these words :

"Be it known, that I, Samuel F. B. Morse, * * * have invented a new and useful improvement in the electro-magnetic telegraph, and I do hereby declare that the following is a full, clear, and exact description of the object, con-

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struction, and operation thereof, reference being had to the accompanying drawings, and making part of the same.

“Object of the invention :

“The original and final object of all telegraphing is the communication of intelligence at a distance by signs or signals.

“Various modes of telegraphing, or making signs or signals at a distance, have for ages been in use. The signs employed heretofore have had one quality in common. They are evanescent—shown or heard a moment, and leaving no trace of their having existed. The various modes of these evanescent signs have been by beacon-fires of different characters, by flags, by balls, by reports of fire-arms, by bells heard from a distant position, by movables, arms from posts, &c.

“I do not, therefore, claim to be the inventor of telegraphs generally. The electric telegraph is a more recent kind of telegraph, proposed within the last century, but no practical plan was devised until about sixteen years ago. Its distinguishing feature is the employment of electricity to effect the same general result of communicating intelligence at a distance by signs or signals.

“The various modes of accomplishing this end by electricity have been—

“The employment of common or machine electricity, as early as 1787, to show an evanescent sign by the divergence of pith balls.

“The employment of common or machine electricity, in 1794, to show an evanescent sign by the electric spark.

“The employment of voltaic electricity, in 1809, to show an evanescent sign by the evolution of gas bubbles, decomposed from solution in a vessel of transparent glass.

“The employment of voltaic electricity in the production of temporary magnetism, in 1820, to show an evanescent sign by deflecting a magnet or compass needle.

“The result contemplated from all these electric telegraphs was the production of evanescent signs or signals only.

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"I do not, therefore, claim to have first applied electricity to telegraphing for the purpose of showing evanescent signs and signals.

"The original and final object of my telegraph is to imprint characters at any distance as signals for intelligence; its object is to mark or impress them in a permanent manner.

"To obtain this end, I have applied electricity in two distinct ways: 1st. I have applied, by a novel process, the motive-power of electro-magnetism, or magnetism produced by electricity, to operate machinery for printing signals at any distance. 2d. I have applied the chemical effects of electricity to print signals at any distance.

"The apparatus or machine with which I mark or imprint signs or letters for telegraphic purposes at a distance, I thus describe."

Here follows a description of the instruments and of how they are employed. After which the patentee sums up, and specifies what he affirms he had invented, and desires to have secured to him by the grant, in these words:

"First. What I claim as my invention, and desire to secure by letters patent, is the employment, in a main telegraphic circuit, of a device or contrivance called the receiving magnet, in combination with a short local independent circuit or circuits, each having a register and register magnet, or other magnetic contrivances for registering and sustaining such a relation to the register magnet, or other magnetic contrivances for registering, and to the length of circuit of telegraphic line, as will enable me to obtain, with the aid of a galvanic battery and main circuit, and the intervention of a local battery and local circuit, such motion or power for registering as could not be obtained otherwise without the use of a much larger galvanic battery, if at all.

"Second. I also claim as my invention the combination of the apparatus called the self-stopping apparatus, connected with the clock-work by the register, for setting said register in action and stopping it with the pen lever, F, as herein described.

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“Third. I also claim as my invention the combination of the point or points of the pen and pen lever, or its equivalent, with the grooved roller, or other equivalent device, over which the paper or other material suitable for marking upon may be made to pass for the purpose of receiving the impression of the characters ; by which means I am enabled to mark or print signs or signals upon paper or other fabric by indentation, thus dispensing with the use of coloring matter for marking, as specified in my letters patent of January 15, 1846.”

But the telegraph itself, constructed according to the specifications of the patents, and in actual use, having been exhibited and given in proof, it is necessary, in order to put on paper the case which has been heard, that the instruments themselves be described.

Description of the Telegraph.

It consists of—

1. The main circuit, with its battery.
2. The key, with the signal lever.
3. The local circuit, with its battery.
4. The receiver or mutator, with its electro-magnet.
5. The register, with its electro-magnet, pen lever, and grooved roller.

It will be observed that in this description the relay magnet, as it was called, by which the combination of the circuit was originally effected, will not be found. It has been substituted by the subsequently invented receiver or mutator, on the same principle by which the main circuit is combined with each local circuit, or circuit in the telegraph office, whereby sufficient motive-power is obtained to work the register.

And that the port rule is also absent. It has been supplied by the improved register and pen lever, with its pen point and grooved rollers in connection.

And it will be observed that the telegraphic dictionary has been also abandoned ; and that the characters indented by the pen constitute an alphabet, differing in little else

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beside the figure of the letters from the common alphabet, and which is therefore read, not by a peculiar dictionary, but as common manuscript.

Nothing occurred in the case which makes it necessary to describe the self-stopping apparatus.

The main circuit of conductors, in connection with the principal battery and key, with its pen lever which operates upon it, may be thus described.

It is begun in a plate of copper buried in the ground under the first telegraph office, and consists of these conductors :

A copper wire, having one end inserted in the copper-plate, and the other in one pole of the galvanic battery, in a room of the office.

Another copper wire, with one end inserted in the other pole of the battery, and after passed through the rooms as may be convenient, with the other end of it extended up and inserted in and under one end of a short bar of brass, which is part of the instrument called the key.

We will here stop the description of the circuit of conductors, and describe this instrument.

Key with its Signal Lever.

This key consists of a cross formed of two flat bars of brass, about two or three inches long, screwed down upon the table, or upon a pedestal fixed upon the table ; on each end of the arms of this cross there rise similar bars, after the manner of the sights of a surveyor's compass, about a couple of inches high. These support the fulcrum of the signal lever. This fulcrum of the lever is a steel cylinder extended between the two upright bars on the arms of the cross, with its ends terminating in axles extending through the bars near the upper ends, so that it may be turned when the lever is worked.

The lever is a bar of brass fixed with its centre upon this fulcrum. It is horizontal when at rest, and is kept in its position by a spring fixed under its fulcrum and extended back. A sort of button of brass is fixed immediately under

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the front end of the lever, and in proximity to the foot of the cross ; so that when the lever is pressed down it is brought into contact with it and the end of a wire which is extended up through its centre. This button is so contrived that, by a short lever extended from it, it is turned from or brought into contact with the cross. We now return to the circuit of conductors.

It is in and under the head of this cross that the wire from the battery was inserted ; and this bar constitutes the next conductor.

There are now here two conductors : one the conductor when intelligence is not being transmitted from the office, and the other when intelligence is being transmitted from the office. When intelligence is not being transmitted, then, after this bar of the key, the button having the brass wire through its centre is the conductor. But when the position of the button is so changed that it is not in contact with this bar, then it is not the next conductor, and the right and left hand arms of the cross and the fulcrum are the next conductors, and the signal lever pressed down and brought into contact with the button is the conductor to it and the wire projecting up through it.

When intelligence is to be transmitted from the office, the operator changes the position of the button, brings it out of contact with the foot of the cross, and the circuit at this point is broken, and the lever constituted the conductor next the button toward the key. The operator has then command of the circuit for his operation. By pressing the key down into contact with the button, the circuit is closed ; and the pressure off, the circuit is broken. This produces the corresponding action of the pen lever, which registers the intelligence he sends off.

We now return to the circuit of conductors.

The wire extended from the button is the next conductor. It is copper, and is extended down under the table, and then up through it near the pedestal of the receiving magnet, situated on the table at a convenient distance from the key, and inserted in a brass standard near its upper end,

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which stands on one corner of the pedestal of this receiver, which will be presently described.

And this standard is the next conductor.

The next is a small brass wire, extending from the foot of this standard up through the pedestal into proximity to the horseshoe magnet. This wire, prolonged and covered with silk, is wound around the shanks of the horseshoe, first around the one end and then around the other, and made to constitute the helices of the magnet; after which it is returned down through the pedestal, and inserted in the foot of another standard on another corner of the pedestal of the magnet.

And this standard is the next conductor.

The next is the brass wire with one end inserted into the standard near its upper end, and the other, after its extension out of the office, united to the iron wire on the posts.

This iron wire is the next conductor to the next office. On entering this office, it is united to the end of a copper wire, which has its other end inserted in and under the head of the cross of the key in the office. Thence the circuit is continued through the instruments of this office as in the first office, when it is again extended out upon the posts to another office; and thus through any number, and over any distance, to the last office of the circuit. It is then, after being passed through the instruments of this office as in the other offices, extended down and fastened in a plate of copper in the ground.

The earth, it is said, constitutes the conductor from this copper-plate to the other, from which we set out, and thereby the circuit is completed.

We will now return and describe the receiver, more properly called the mutator.

Receiving Magnet.

This magnet rests on the pedestal which has been already mentioned, eight or ten inches long, and four or five broad, with the axis of its helices horizontal, and parallel to the sides of its pedestal, and with what corresponds to the

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front part of the horseshoe presented to the left, in proximity to the two standards we passed on the circuit.

It is kept in its position by a brass bar extended across the helices, near the heels of the horseshoe, and pressed and kept firmly upon them by a screw extended down from either end into the pedestal.

Its heels present themselves to a horizontal armature of a movable upright lever within their attractive power, and which, it will be presently found, is one of the conductors of the local circuit.

This local circuit can now be described. It begins in a galvanic battery in the office, and consists of these things :

A copper wire, with one end inserted in one pole of the local battery in a room of the office, and the other end brought up through the table and screwed into an upright brass bar or standard near its upper end, standing on the back right-hand corner of the pedestal of the receiver.

The next conductor is this standard.

And then a copper wire extended from its lower end under the pedestal, and there connected with a steel cylinder, which constitutes the fulcrum, on which stands the movable lever already mentioned in describing the main circuit.

This cylinder is horizontal, parallel to the heels of the magnet, but below them, is fixed in a channel across the pedestal, and has its ends in sockets, in which it turns and allows the lever which stands upon it to move forward and back.

And this lever is the next conductor.

It stands perpendicular, and is held in this position by a spiral spring extended from behind it and holding it back against the end of a screw projected in like manner against its back ; but which, when the armature fixed across it is attracted by the heels of the magnet, readily consents to its motion forward to meet near its upper end another conductor, which will be presently described, and when the attraction is not, as quickly withdraws it to its former position.

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We will now return back to the local battery, and commence at its other pole.

The first conductor thence in this direction is another copper wire.

This has one end inserted in the battery, and after being extended around, according to the situation of the room, has its other end brought up under the table near the electro-magnet of the register, where it is united to a small wire, which is the next conductor.

It is prolonged and wound on the horseshoe bar in like manner with the wire on the main circuit, and made to constitute the helices of this magnet, and then has its other end fastened to a large wire.

And this wire is the next conductor.

It is extended under the table, and afterward brought up, and has its other end screwed into a brass standard upon the right-hand front or remaining corner of the pedestal of the receiver.

And this standard is the next conductor.

It is succeeded by a brass wire, extended from its lower end under the pedestal, and brought up between the helices of the receiving magnet to the under side of the horizontal bar, which we lately left extended across the helices, near the heels of the magnet, and there inserted in this bar.

Immediately over this end of this wire, and fixed upon this horizontal bar, stands a perpendicular bar, which is the next conductor.

And the last conductor is a brass screw, which, passed through this bar, near its upper end, and extended out horizontally from it, presents its platina point to the movable lever, which we lately left in describing the conductors from the other end of the battery, ready to close the circuit whenever attracted forward by the heels of the magnet presented to its armature below.

When, by the act of the operator on his signal key, the main circuit is complete or "closed," as it is called, the horseshoe is instantly an electro-magnet, and the armature of the lever, attracted toward, not to, its heels, the lever is

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brought into contact with the platina point of the brass screw, presented to its front, and the local circuit of conductors is "closed;" and the horseshoe, whereon we just said the wire of the local circuit had formed the helices, being converted into an electro-magnet for the register, instantly acts upon the pen lever in the register, in the mode we will presently describe, and records the intelligence which the operator proposed.

This done, and the main circuit broken, the spiral spring behind the lever, which had before readily assented to its attraction forward, as quickly withdraws it to its former position, and awaits another signal.

Register, Pen Lever, and Grooved Rollers.

The register consists of a horseshoe magnet, the pen lever, a spiral spring, the grooved rollers, and the clock-work, all fixed in a proper frame upon a brass pedestal ten or twelve inches long and about half that breadth, fixed down upon the table at a convenient distance from the other instruments.

The magnet is fixed on the right-hand end of the pedestal, the axis of the helices perpendicular, and the heels upward, presenting themselves to an armature of the pen lever within their attraction above.

The pen lever is a brass bar. It rests in a horizontal position, with one end extended to the right, across the heels of the magnet, where its armature is fixed across it, and the other extended to the left, toward the rollers.

It has for its fulcrum a steel cylinder, fixed across its centre, with its ends in sockets in the framework. It is held to the position by the spiral spring, extended from the lower end of a bar fixed in, and extended down from, the centre of the fulcrum, and thence extended back toward the magnet, and made fast, which, by its facile extension, instantly assents to the action of the lever with its pen, and as quickly withdraws it.

The rollers are fixed each with its axis in the framework, one with its axis on a level with the lever, the other with

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its axis over the line of the periphery next the lever of the lower roller.

The pen, fixed upon this end of its lever, and projected forward, presents its point upward, in proximity to the centre of this upper roller, in proper direction for action upon the paper in its transit over it when cast up by the attraction down of the other end of the magnet.

The paper is guided from above this upper roller and passed around it and between the two rollers, and by their revolution is drawn forward at a rate suited to the action of the pen.

There is around each roller, under the paper and exactly opposite the pen, a narrow groove of such depth that the pen point, in making its indentations on the paper, does not extend to the metal of the roller, whereby its point is preserved and the line of characters on the paper is kept from contact with either roller, and protected from being dimmed by the compression of the paper, in its transit between them.

The revolution of the rollers is by the clock-work on the left.

The rollers having been put in motion, the electro-magnet charged, the armature with that end of the lever attracted down, and the other cast up, the pen with its point indents a character upon the paper, and the magnet is charged, the spiral spring has brought down the pen, and holds it in position for a repetition of the act.

But we will return to the signal key, or correspondent, stationed in the distant office whence the intelligence is to be transmitted, and follow it in its course and see it recorded.

The operator having been put in possession of the intelligence, and broken the circuit in the lower conductors of his key, and thereby made his signal lever a conductor of the main circuit, applies his hand upon the signal lever and presses it down upon the conductor below, the main circuit is instantly closed ; the horseshoe within the helices of this main circuit is a magnet, the armature has drawn its mov-

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able lever into contact with the platina point, the local circuit is closed ; the horseshoe within the helices of this circuit is an electro-magnet, the armature of the pen lever is upon its heels, the other end of the lever has cast up the pen, and indented an intelligible character upon the paper.

The operator's hand taken off, and the main circuit is broken ; the receiver within it is not a magnet ; the movable lever has been withdrawn by its spring from the platina point, the local circuit is broken ; the register magnet is no longer a magnet, and the pen has been sprung down from the paper, and stands ready to repeat and add another character of the intelligence.

The operator's hand upon his lever, and another character is added.

And these are the characters recorded, and how they are read : - — is A, — — — is B, - - - is C, — — — is D, - is E, - - - is F, — — — is G, — — — is H, - - is I, — — — is J, — — — is K, — — is L, — — is M, — — is N, - - is O, — — — is P, — — — is Q, - - - is R, - - - is S, — is T, — — is U, — — — is V, — — — is W, — — — is X, — — — is Y, — — — is Z, — — — is & ; and such is the alphabet.

Then — — — is 1, — — — is 2, — — — is 3, — — — is 4, — — — is 5, — — — is 6, — — — is 7, — — — is 8, — — — is 9, — — — is 0 ; and these are the numerals.

The holding down the lever an instant indented one dot (-) ; the holding it longer made a dash (—) of a length corresponding to the time. The dots were made at distances corresponding to the time the hand was held *off* the lever.

And this is the telegraph and its operations before us.

(Judge Monroe then proceeded to examine the law and evidence upon all other points in the case, and then passed the following decree :)

Decree of the Circuit Court, 12th November, 1849.

It is found and adjudged by the court that the letters patent of the United States to the complainant, Samuel F. B. Morse, for his invention of a new and useful improve-

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ment in the mode of communicating information by signals, by the application of electro-magnetism, originally issued June 20, 1840, but reissued on the 15th day of January, 1846, and afterward finally reissued on the 13th of June, 1848, in their bill exhibited and read on the hearing of this cause, are valid and effectual acts of the government; and that the complainants are thereby, and by the assignments by them in their bill alleged, vested with the exclusive rights thereby granted.

And it is found and adjudged by the court that the defendants have, in those rights, disturbed the complainants as in their bill alleged; that they, the defendants, after the grant thereof to the patentee, Samuel F. B. Morse, and his assignments to his co-complainants, and after the final reissue of the letters patent above mentioned, did, within the district of Kentucky, and elsewhere, wrongfully construct and unlawfully employ a telegraph, consisting of combined circuits of electricity, worked by the motive-power of electro-magnetism, substantially the same plan of construction and principle of operation with the telegraph of the said Morse in his letters patent described and specified; and by which intelligence which was in one station was, by the defendants, transmitted to other distant stations, by making thereat a permanent record thereof in the alphabetical characters described and specified in the letters patent to the said Morse, and did thereby violate and infringe the exclusive rights so granted by the United States to him, the said Samuel F. B. Morse, and invested in the complainants as above found; and it is considered that the injunction heretofore granted herein was rightfully awarded and enforced.

It appears, however, by the document itself, read by the complainants among their proof, that the patentee, Samuel F. B. Morse, had, on the 30th day of October, 1838, prior to the issuing of his original patent, awarded by the United States for his original invention, obtained of the government of France a patent for the invention of his electro-magnetic telegraph, in principle and plan of construction

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the same with that described in his said letters patent so afterward obtained of the United States.

And it seems to the court that the exclusive right of the complainant, in respect to his original invention, is limited by this foreign patent to the term of fourteen years from its date.

It is therefore ordered, adjudged, and decreed that the defendants, their servants and agents, be, and they are hereby, enjoined and commanded that they, and each of them, do still desist, and shall for and during the term of fourteen years from the 30th day of October, 1838, altogether refrain from all and every use of the electro-magnetic telegraph which the complainants, in their bill, charged was, by the defendants, employed in violation of their rights, which, in its several forms, is described in the proofs of the cause, and denominated by the witness in the depositions, and by defendant O'Reilly in his answer, the Columbian telegraph, in the transmission of intelligence which is in one place to another distant place, by making thereat a permanent record in the alphabetical characters in the patent of Samuel F. B. Morse for his original invention specified; or by making thereat, with the action of the instrument which would make such characters, alphabetical sounds, and out of them composing such characters or words in the ordinary alphabet; and from the using of such telegraph, or any part thereof, in any other mode, in violation of the exclusive rights so granted by the United States and vested in the complainants; and that they shall, for and during the said term of fourteen years, refrain from making, constructing, or vending to be used within the district of Kentucky any other telegraph, consisting of combined circuits of electricity, worked by the motive-power of electro-magnetism, on the plan and principle of the electro-magnetic telegraph of the complainant Morse, described and specified in his letters patent, by which intelligence shall or may be transmitted by making, in the mode above stated, a record thereof in the said alphabetical characters of the said Samuel F. B. Morse, or in an alphabet

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formed on the same plan and principle, or by making in such mode sounds whereof such characters shall or may be composed, in the violation and infringement of the exclusive right of the complainants as they are above adjudged.

It is also found and adjudged by the court that the letters patent of the United States to Samuel F. B. Morse, for his invention of "a new and useful improvement in electro-magnetic telegraph," originally issued on the 11th day of April, 1846, but afterward reissued on the 13th of June, 1848, with the amended specifications of the improvements invented, which is in the bill of the complainants exhibited, and made part of the record of this cause, is a valid and effectual act of the government; and that the complainants are thereby, and by the assignments in their bill alleged, vested with the exclusive rights thereby granted.

And it is found and adjudged that the defendants have disturbed the complainants in these their exclusive rights. It is found that the defendants, before and after the issuing of the said last-mentioned letters patent of the 13th of June, 1848, in renewal of the said former patent, did, within the district of Kentucky, and elsewhere, wrongfully cause to be constructed, and did unlawfully use and employ, as a part of the electro-magnetic telegraph denominated the Columbian telegraph, an instrument denominated by them the mutator, in plan of construction, principle of operation, and in the purpose accomplished by it, substantially the same with the improvement described and specified in the said last-mentioned letters patent to the complainant Morse, which consists of the contrivance called, in his schedule to his patent, the receiving magnet, which is by this denomination described and specified under the head of the first claim of the improvements in his schedule.

And that they did, in like manner, cause to be constructed, and unlawfully employ as another part of the said Columbian telegraph, certain other apparatus and instruments, and combinations thereof, in plan of construction, principle of operation, and purpose, substantially the same with the improvements of the register invented by him, the

Statement of the case.

said Samuel F. B. Morse, and in the schedule described and specified as the third thing claimed by him as his invention, consisting of the combination of the point of the pen and pen lever, with the grooved roller over which the paper is passed, and receives the indentations of his alphabetical characters, and whereby is dispensed with the use of the coloring material, as specified in the patent for the original invention of the telegraph first above mentioned, issued and bearing date January 15, 1846.

And it is found that the said telegraph, called the Columbian telegraph, containing and consisting in part of the said two improvements of the said Morse, described and specified in his said last-mentioned letters patent, was, by the defendants, employed, before and after the last issue of the said last-mentioned letters patent, within the district of Kentucky and elsewhere, in the transmission of intelligence in the mode above mentioned, in violation and infringement of the exclusive right so granted by the United States by these last-mentioned letters patent, and held by the complainants, as by them alleged and by the court adjudged.

It is therefore ordered, and adjudged, and decreed that the defendants, their servants and agents, be, and they are hereby, enjoined and commanded that they, and each of them, do still desist, and shall forever, and during the term of fourteen years from the eleventh day of April, eighteen hundred and forty-six, altogether refrain from all and every use and employment of the above-mentioned telegraphic instruments, denominated the mutator, in the combination with the other above-described instruments of such telegraph, or in any other combination on the same plan and principle, in the transmission of intelligence in the district of Kentucky.

And that they do still desist and, for and during the said term of fourteen years, refrain from all and every such employment in the transmission of intelligence within the district of Kentucky, of the above-mentioned improvement of the complainant Morse, in the register of his telegraph, whereby is accomplished the making of his alphabetical

Argument of counsel.

characters before mentioned, described, and specified by indentation, instead of by coloring matter, in violation of the exclusive rights of complainants, by them held under the aforesaid letters patent as above adjudged.

And that the defendants shall, for and during the said term of fourteen years from the said eleventh day of April, eighteen hundred and forty-six, refrain from constructing or vending, to be employed in such transmission of intelligence, within the district of Kentucky, any of the above-mentioned improvements, either the instrument denominated the mutator, the improved register of said Morse, or any other of the improvements in the electro-magnetic telegraph, so described and specified in said letters patent as the invention of the said Samuel F. B. Morse, and whereof the exclusive right is granted him ; and that they shall in no other wise, for the term aforesaid, violate or in anywise infringe the aforesaid rights of the complainants within said district of Kentucky.

And it is ordered that the complainants may have the proper writs of execution on what is above decreed.

(The decree then went on to provide for damages, which part is omitted.)

The defendants appealed from this decree.

The cause was argued in this court by *Mr. Gillet* and *Mr. Chase*, for the appellants ; and *Messrs. Campbell* and *Harding*, of Philadelphia, and *Mr. Gifford*, of New York, for the appellees.

It is impossible for the reporter to do more than merely state the positions assumed by the respective counsel.

The counsel for the appellants contended—

First. Morse's patent of 1840 is void, because it runs fourteen years from the date of its issue, instead of that length of time from the date of his French patent.

Second. In construing a patent and deciding what are the inventions patented thereby, the summing up is conclusive. Nothing is patented but what is expressly claimed in the summing up as the invention.

Argument of counsel.

Third. What is described in a patent and not claimed, whether invented by the patentee or not, is dedicated to the public, and cannot be afterward claimed as a part of his patent, in a reissue or otherwise.

Fourth. A patent void in part is void in whole, except when otherwise provided by statute.

Fifth. An invention is not complete, so as to be patentable, or to bar the obtaining a patent by another inventor, until it is perfected and adapted to use.

Sixth. Where a patent is for a combination of parts, and not for the different parts composing the combination, the use of any of those parts less than the whole is not an infringement.

Seventh. Morse's patents of 1846 and 1848 are void, because he was not the first inventor of the things patented, or of substantial and material parts thereof.

Eighth. Morse's reissued patents, dated June 13, 1848, are void, because he has not shown that the surrendered patents were inoperative or invalid, for defective specification or otherwise, so as to confer on the Commissioner jurisdiction to make such reissues. The surrendered patents, being set out, disprove any such jurisdiction.

Ninth. The patent of 1840, as secondly reissued, is void, because the Commissioner had no authority to accept a second surrender and make a second reissue.

Tenth. Morse's patent of 1840, as secondly reissued, is void, because it is broader than the invention originally patented.

Eleventh. Morse's patent of 1846 is void :

1. Because material parts of it had been known and in public use before his application.

The first claim covers the inventions for connecting circuits used by Davy, Wheatstone, and Henry in 1837.

2. Because the same was described by Henry in Silliman's Journal, and in the London Mechanics' Magazine, containing an account of Davy's invention ; and by Vail, in giving Morse's and others.

3. Because the same invention, or a substantial part

Argument of counsel.

thereof, was patented by Wheatstone, Davy, and Morse himself, prior to his application for his patent of 1846.

This first claim in the reissue of the patent of 1846 is the same thing as the fourth claim of the last reissue of the patent of 1846.

The account given by Henry and Morse shows that Henry's, Wheatstone's, and Davy's were the same as Morse's first claim of the reissue of the patent of 1846.

Twelfth. Morse's reissue of 1846 is void, because it is broader than the original.

1. He claims the employment of a receiving magnet, or its equivalent, in combination with a short local independent circuit, having a register magnet to obtain power.

There is no such claim in the original. He there claimed the invention of the receiving magnet or registering contrivances, which sustained certain relations as would enable him to obtain power, &c., without mentioning a short local independent circuit. He now claims two short local circuits. The claim is materially enlarged.

2. His third claim is for a combination which includes the pen lever, or "its equivalent," and for anything over which paper may be passed for the purpose of receiving the impression of characters, &c., by indentation on paper and other fabrics, dispensing with coloring matter, &c.

Here is a palpable enlargement of his claim.

3. His historical recital is an unauthorized addition, and not necessary to perfect his specification.

Thirteenth. The surrender and reissue on account of a defective specification authorizes amendments only, and not changing the specification into a new one; nor does it authorize new claims.

Fourteenth. In the second reissue of the letters of 1840, Morse patents a principle or effect, and not a machine, manufacture, or composition of matter, or an improvement upon either; and it is, therefore, void.

The counsel for the appellees considered the patents separately, viz. :

Argument of counsel.

Patent of 1840. Reissued 1848.

Patent of 1846. Reissued 1848.

Patent of 1840. Reissued 1848.

To this patent, and the claim under it, five defences are presented.

It is alleged by the appellants—

I. That it is void by reason of an alleged error in date ; *i.e.*, not date of French patent.

II. That the things claimed in the fifth, the sixth, and the eighth claims are not patentable.

III. That Morse was not the inventor of substantial parts of the improvement as claimed.

IV. That the description in the specification is insufficient.

V. That the appellants do not infringe.

(Each one of these heads was examined separately. The particular attention bestowed by the court to the following head renders the insertion of the view of the counsel proper :)

II. Are the Fifth, Sixth, and Eighth Claims Patentable?

I. Of the fifth and sixth. The fifth is a claim to the system of signs composed of dots, spaces, and horizontal lines, (susceptible of being variously combined, representing numerals, words, and sentences,) for telegraphic purposes ; being an improved instrumentality in the art of telegraphing by electricity or galvanism.

The sixth is a claim to the art, consisting of the marking the signs composed of dots, spaces, and horizontal lines, (susceptible of being variously combined, representing numerals, words, and sentences,) by closing and breaking a galvanic circuit more or less rapidly for telegraphing ; combined with machinery to record them.

An art is patentable by the act of 1836, and so is an improvement on it. *Whittemore v. Cutter*, 1 Gall. 478 ; *Phillips on Patents*, 102, 110 ; *The King v. Wheeler*, 2 Barn. & Ald. 349 [1 Am. & Eng. 317] ; *Crane v. Price*, *Webster's P. C.* 409 ; *Schuykill Bank v. Kneass*, 4 Wash. C. C. Rep.

Argument of counsel.

9 and 12; *McClurg v. Kingsland*, 1 Howard, 204 [4 Am. & Eng. 382]; *Curtis on Patents*, sec. 37; *French v. Rogers*, opinion Judges Grier and Kane [1 Fish. 133]; Pamphlet, Kane, J., *Parker v. Hulme*, p. 7 [1 Fish. 44].

The art is distinct from the means employed in its exercise; both may be, and under this patent are, patented.

II. Of the eighth claim. This claim is declaratory, and is to the effect that, having been the first to conceive and carry into effect a plan for imprinting telegraphic characters by the power of electro-magnetism, he negatives the idea that the mere instrumentalities described in his patent constitute the whole of the invention claimed by him, or even the most important part thereof, or that he intended to surrender to the public the conception he had reduced to practical utility, should anybody else be able to devise other means for accomplishing the same end, by the use of the same power, but claims it as his property.

He who discovers a principle and devises one mode by which the same can be rendered practically useful, is entitled to a patent which shall protect him to the full extent of his invention, and against all other devices for using it.

If Morse, therefore, was the first to discover that the power of electro-magnetism could be used for the purpose of recording telegraphic signs, and devised one practical mode for using it, he may, by a general claim, secure to himself the right of so applying it, as well as the particular devices by which he did so. *London Jour. and Rep. Arts*, 1850, p. 130; *Jupe v. Pratt*, Webster's P. C. 145, 146 [2 Am. & Eng. 464]; *Forsyth's Patent*, Webster's P. C. 96, 97 [1 Am. & Eng. 325]; *Crane v. Price*, Webster's P. C. 409, 410 [3 Am. & Eng. 437]; *Park v. Little*, 3 Wash. C. C. Rep. 197.

See the cases collected in *Lund on Patents*, Law Lib., September, 1851, p. 37, illustrating the proposition that the rights of the patentee are not restricted to the particular application or embodiment of his invention, but extend to the exclusion of other like applications.

Argument of counsel.

Judge Kane's opinion, Blanchard's case ; Fr. Inst. Jour. 1847 ; and Pamphlet, Parker v. Hulme, Judge Kane's opinion.

Patent of 1846. Reissued 1848.

The defences suggested by the appellants to this patent are—

I. That the improvement is not sufficiently described, and that the improvement is not sufficiently discriminated.

II. That it is for the same invention that was patented to Morse in the patent of 1840.

III. That it was in use and on sale with patentee's consent, before his application for a patent.

IV. That Morse was not the inventor.

As to the fourth head, the counsel for the appellees contended that the following list were shown by the evidence to have been invented by Morse :

1. He was the first person who employed an electro-magnet, placed in a long circuit, for telegraphic purposes.

2. He was the first person who devised suitable machinery for recording, and adapted such machinery to an electro-magnet placed in a long galvanic circuit.

3. He was the first person who employed an electro-magnet, placed in a long galvanic circuit, to open and close another long galvanic circuit, for telegraphic purposes.

4. He was the first person who employed an electro-magnet, placed in a long galvanic circuit, to open and close a short local circuit at a distance, for telegraphic purposes.

5. He was the first person who placed, in the course of a long galvanic circuit, at various distances apart, a series of electro-magnets, to open and close, at one and the same time, a corresponding series of short recording circuits, by means of which arrangement an operator at one station could simultaneously record at a series of distant telegraphic stations.

6. He was the first person who adapted, to an electro-magnet placed in a long galvanic circuit, suitable machinery for recording the establishment and duration of a galvanic current through such a long galvanic current.

Argument of counsel.

7. He was the first person who devised a process or mode of establishing and continuing, at determinate intervals of time, a galvanic current through a circuit of conductors, and of recording the establishment of such current in dots and lines.

8. He was the first person who devised a system of signs formed of the combination of dots and lines, and so applicable to the above process of recording as to render it available for representing at a distance letters, words, and sentences.

9. He was the first person who employed electro-magnetism, when developed in the manner and by the means specified, to produce distinguishable signs for telegraphing.

10. He was the first person who adapted, to an electro-magnet, a lever with an adjustable reacting spring, and adjustable stops, for limiting the play of such armature, and thus formed a receiving electro-magnet, susceptible of nice regulation, so as to operate equally with the varying force of the galvanic currents in a long or main circuit.

11. He was the first person who combined such an electro-magnet in a long circuit with a short recording circuit, to be opened and closed by such electro-magnet.

12. He was the first person who devised and constructed an apparatus or machine for telegraphing, consisting of the several following parts, sustaining to each other the several following relations, and performing the several following functions, respectively :

1. A main circuit,	which consists of	a long conductor extending through several stations,	the function of which is	to transmit the galvanic current through its whole length whenever it is closed.
2. A main battery series,	"	a number of cups arranged along the main conductor,	"	to supply the main conductor with a current sufficient to work the electro-magnets in its course.
3. Operating keys,	each of which consists of	a small metallic lever,	"	to break and close the main circuit.
4. A series of receiving magnets,	"	an electro-magnet with lever and reacting spring,	"	to close the office circuit when a current passes through the main circuit.
5. Adjusting screws,	"	movable screws to regulate force of reacting spring and play of lever,	"	to render receiving magnets sensitive to varying force of main current.

Argument of counsel.

6. Office circuits,	each of which consists of	a circuit of conductors limited to each office,	the function of which is	to transmit the power to mark the paper.
7. Office battery series,	"	a certain number of grove cups at each station,	"	to generate and supply the office circuit with a current of greater force than the main circuit current.
8. Marking apparatus,	which consists of	a fine pointed piece of iron, pen lever, and grooved roller,	"	to indent dots and lines upon paper.
9. Registers,	"	a series of clock-work moved by a weight regulated by a fly,	"	to move the paper uniformly under the point of the pen.
10. Office magnets,	"	an electro-magnet,	"	1. To develop the power by which the pen marks in the groove of a roller. 2. To produce audible distinguishable sounds.
11. Certain process,	"	in establishing, continuing, and interrupting a galvanic current through the main circuit at determinate intervals,	"	to record dots and lines at one or many distant stations at the will of a distant operator.
12. A system of signs	"	dots and lines to represent the letters of the alphabet and numerals,	"	1. When applied to the record, to render such record intelligible. 2. When applied to the sounds of the office magnet, to render those sounds intelligible.

13. The art of recording dots and lines at a distance for telegraphing.

(The counsel then examined the question of infringement of each patent separately, and concluded with the following :)

The Appellants infringe the Patents of 1840 and 1846, Jointly Considered.

It is proper to consider the claims of the patents together, and in connection with the specifications as well as separately, in order to secure the real invention to the patentee.

The joint effect of the several claims of the first patent, apart from the specific things claimed in each, makes it a patent also for Morse's new art, process, and system of telegraphing, by recording the variable duration of the galvanic current in dots and lines.

The second patent is for an improvement in the means by which that art was carried into effect.

Argument of counsel.

The two together constitute the art, process, system, and means of telegraphing as improved, or, in other words, *the telegraph*.

This whole system or telegraph so jointly considered, as used by the appellants, in all its main features, is copied from that of the appellees. That it is so, will appear from the following table, showing the several parts of the apparatus used by each, and their several relations and functions.

The appellants and appellees agree in employing an apparatus for telegraphing, consisting of the following parts; sustaining to each other the several following relations, and performing the several following functions, respectively :

1. A main circuit,	which consists of	a long conductor extending through several stations,	the function of which is	to transmit the galvanic current through its whole length whenever it is closed.
2. A main battery series,	"	a number of cups arranged along the main conductor,	"	to supply the main conductor with a current sufficient to work the electro-magnets in its course.
3. Operating keys,	each of which consists of	a small metallic lever	"	to break and close the main circuit.
4. A series of receiving magnets,	"	an electro-magnet with lever, and reacting spring,	"	to close the office circuit when a current passes through the main circuit.
5. Adjusting screws,	"	movable screws to regulate force of reacting spring and play of lever,	"	to render receiving magnets sensitive to varying force of main currents.
6. Office circuits,	"	a circuit of conductors limited to each office,	"	to transmit the power to mark the paper.
7. Office battery series,	"	a certain number of grove cups at each station,	"	to generate and supply the office circuit with a current of greater force than the main circuit current.
8. A pen point, pen lever, and grooved lever,	which consists of	a fine pointed piece of iron, lever, and grooved roller,	"	to indent dots and lines upon paper.
9. Registers,	"	a series of clock-work moved by a weight regulated by a fly,	"	to move the paper uniformly under the point of the pen.
10. Office magnets,	"	an electro-magnet,	"	1. To develop the power by which the pen marks in the groove of a roller. 2. To produce audible distinguishable sounds.

Argument of counsel.

11. Certain process,	which consists	in establishing, continuing, and interrupting a galvanic current through main circuit at determinate intervals,	the function of which is	to record dots and lines at one or many distant stations at the will of a distant operator.
12. A system of signs	"	dots and lines to represent the letters of the alphabet and numerals,	"	1. When applied to the record, to render such record intelligible. 2. When applied to the sounds of the office magnet, to render those sounds intelligible.

UNITED STATES PATENT OFFICE. SAMUEL F. B. MORSE, OF NEW YORK, N. Y. IMPROVEMENT IN THE MODE OF COMMUNICATING INFORMATION BY SIGNALS BY THE APPLICATION OF ELECTRO-MAGNETISM. SPECIFICATION FORMING PART OF LETTERS PATENT No. 1,647, DATED JUNE 20, 1840.

To all whom it may concern :

Be it known that I, the undersigned, SAMUEL F. B. MORSE, of the city, county, and State of New York, have invented a new and useful machine and system of signs for transmitting intelligence between distant points by the means of a new application and effect of electro-magnetism in producing sounds and signs, or either, and also for recording permanently by the same means and application and effect of electro-magnetism any signs thus produced and representing intelligence transmitted, as before named, between distant points ; and I denominate said invention the " American Electro-Magnetic Telegraph," of which the following is a full and exact description, to wit :

It consists of the following parts : first, of a circuit of electric or galvanic conductors from any generator of electricity or galvanism, and of electro-magnets at any one or more points in said circuit ; second, a system of signs by which numerals and words represented by numerals, and thereby sentences of words as well as of numerals, and letters of any extent and combination of each, are communicated to any one or more points in the before-described cir-



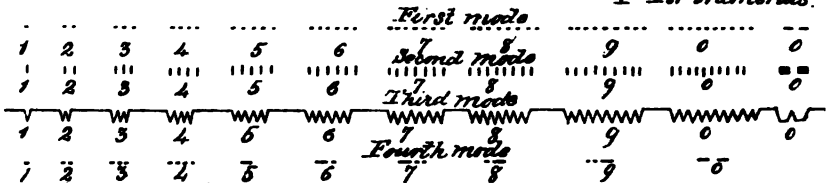
S. F. B. MORSE.

Telegraph Signs.

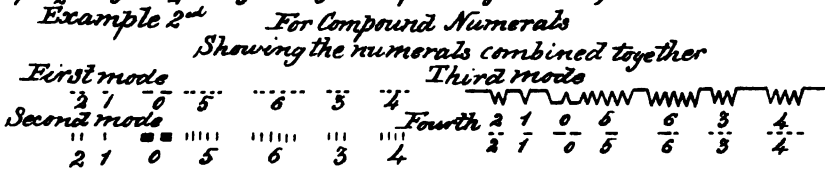
No. 1,647.

Patented June 20, 1840

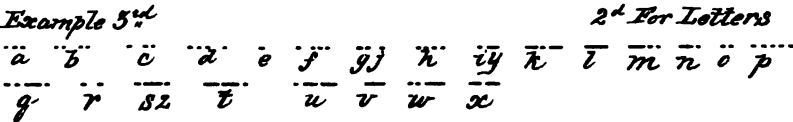
Example 1st



Example 2nd



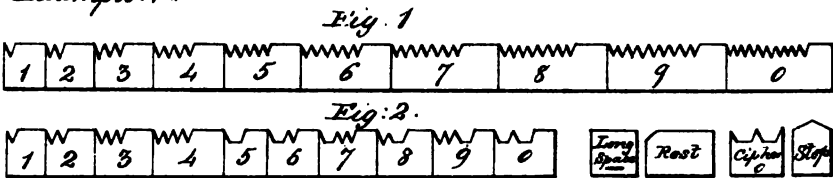
Example 3rd



The System of Type

Example 4th

1st For Numerals



Example 5

2nd For Letters

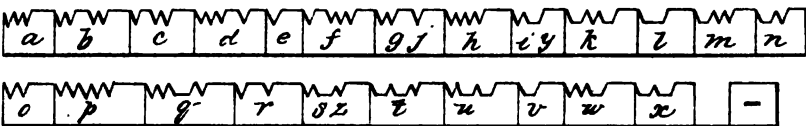


Fig. 1.



Fig. 2.



Example 6.

Type for Circular Port Rule



Witnesses.

Alfonso Black
Ex. Jackson

Inventor

Sam. F. B. Morse

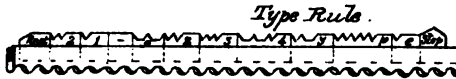
S. F. B. MORSE.

Telegraph Signs.

No. 1,647.

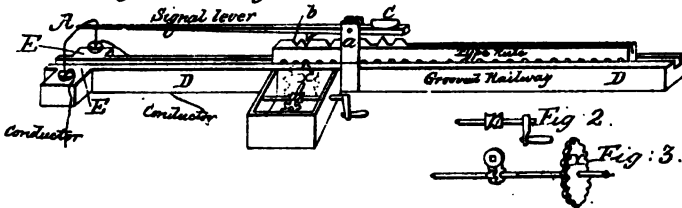
Patented June 20, 1840

Example. 7.



Example. 8.

Fig: 1. Straight Port Rule



Example. 9.

Circular Port Rule

Fig: 1.

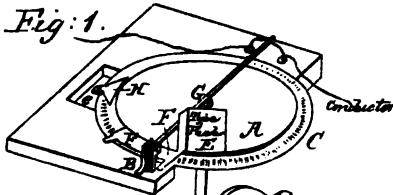


Fig: 3.

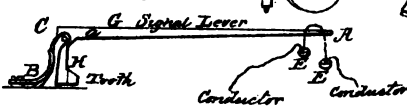


Fig: 2.

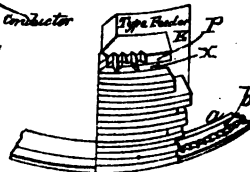
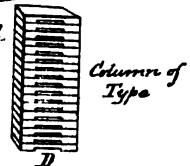


Fig: 4.



Witnesses.

Thomas Clark
Alex. Jackson

Inventor.

Sam. F. B. Morse

No. 1.647.

Patented June 20, 1840

Example. 10.

Register.

Fig: 1.

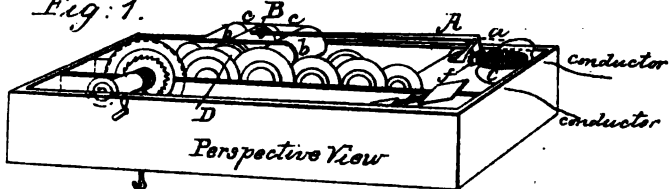


Fig. 2

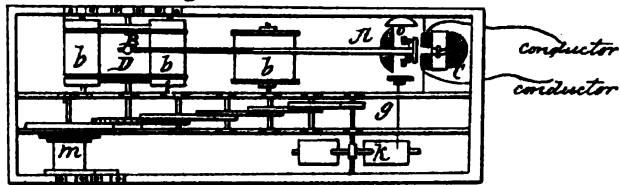


Fig: 3.

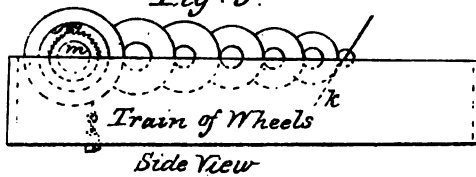
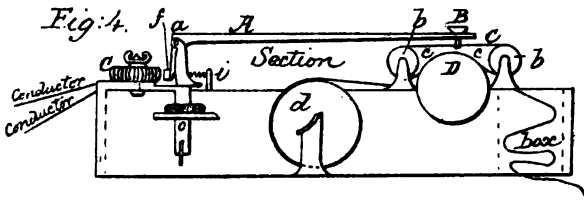
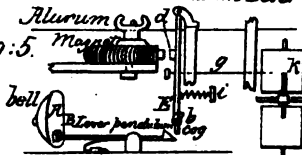


Fig:4. 1



Pendulum Lever

Fig: 5



Witnesses.

Thomas Clark
Alex. Jackson

Alex. Jackson

Inventor

Sam. F. B. Morse



S. F. B. MORSE.
Telegraph Signs.

4 Sheets—Sheet 4.

No. 1,647.

Patented June 20, 1840

Example 11.

Fig: 1.

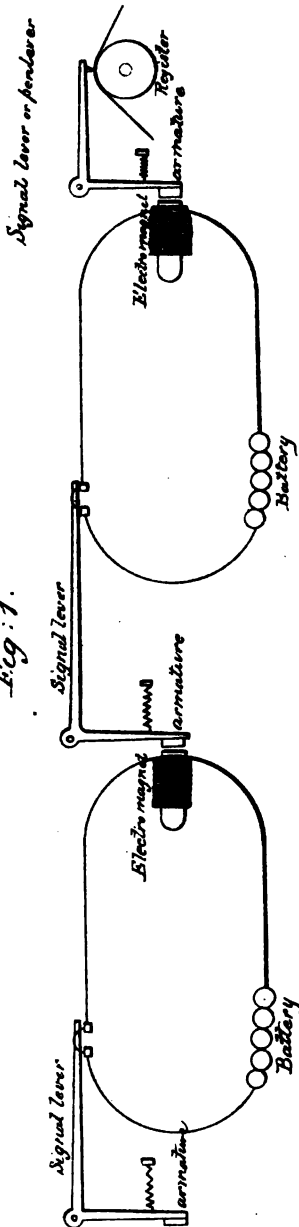
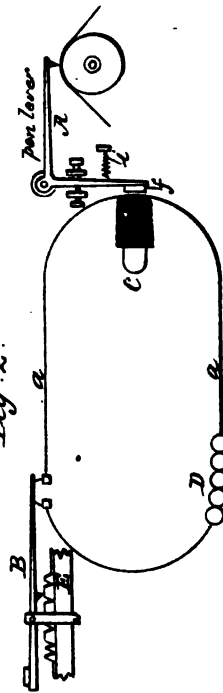


Fig: 2.



Witnesses

Thomas Clark
H. Jackson

Inventor

Saml. F. B. Morse

Argument of counsel.

cuit ; third, a set of type adapted to regulate the communication of the above-mentioned signs, also cases for convenient keeping of the type, and rules in which to set and use the type ; fourth, an apparatus called the "straight port-rule," and another called the "circular port-rule," each of which regulates the movement of the type when in use, and also that of the signal-lever ; fifth, a signal-lever which breaks and connects the circuit of conductors ; sixth, a register which records permanently the signs communicated at any desired points in the circuit ; seventh, a dictionary or vocabulary of words, to which are prefixed numerals for the uses hereinafter described ; eighth, modes of laying the circuit of conductors.

The circuit of conductors may be made of any metal—such as copper or iron wire or strips of copper or iron, or of cord or twine, or other substances—gilt, silvered, or covered with any thin metal leaf properly insulated and in the ground, or through or beneath the water, or through the air. By causing an electric or galvanic current to pass through the circuit of conductors laid as aforesaid by means of any generator of electricity or galvanism to one or more electro-magnets placed at any point or points in said circuit, the magnetic power thus concentrated in such magnet or magnets is used for the purposes of producing sounds and visible signs, and for permanently recording the latter at any and each of said points, at the pleasure of the operator, and in the manner hereinafter described—that is to say, by using the system of signs which is formed of the following parts and variations, viz. :

Signs of numerals consist, first, of ten dots or punctures, made in measured distances of equal extent from each other, upon paper or any substitute for paper, and in number corresponding with the numeral desired to be represented. Thus one dot or puncture for the numeral 1, two dots or punctures for the numeral 2, three of the same for 3, four for 4, five for 5, six for 6, seven for 7, eight for 8, nine for 9, and ten for 0, as particularly represented on the annexed drawing, marked Example 1, Mode 1, in which is

Argument of counsel.

also included a second character, to represent a cipher, if preferred.

Signs of numerals consist, secondly, of marks made as in the case of dots, and particularly represented on the annexed drawing, marked Example 1, Mode 2.

Signs of numerals consist, thirdly, of characters drawn at measured distances in the shape of the teeth of a common saw by the use of a pencil or any instrument for marking. The points corresponding to the teeth of a saw are in number to correspond with the numeral desired to be represented, as in the case of dots or marks in the other modes described, and as particularly represented in the annexed drawing, marked Example 1, Mode 3.

Signs of numerals consist, fourthly, of dots and lines separately and conjunctively used as follows, the numerals 1, 2, 3, and 4 being represented by dots, as in Mode 1, first given above: The numeral 5 is represented by a line equal in length to the space between the two dots of any other numeral; 6 is represented by the addition of a dot to the line representing 5; 7 is represented by the addition of two dots to said line; 8 is represented by prefixing a dot to said line; 9 is represented by two dots prefixed to said line; and 0 is represented by two lines, each of the length of said line that represents the number 5. Said signs are particularly set forth in the annexed drawings, marked Example 1, Mode 4.

Either of said modes are to be used as may be preferred or desired and in the method hereinafter described.

The sign of a distinct numeral or of a compound numeral when used in a sentence of words or of numerals consists of a distance or space of separation between the characters of greater extent than the distance used in separating the characters that compose any such distinct or compound numeral. An illustration of this sign is particularly exhibited in the annexed drawing, marked Example 2.

Signs of letters consist in variations of the dots, marks, and dots and lines, and spaces of separation of the same formation as compose the signs of numerals, varied and

Argument of counsel.

combined differently to represent the letters of the alphabet, in the manner particularly illustrated and represented in the annexed drawing, marked Example 3.

The sign of a distinct letter, or of distinct words when used in a sentence, is the same as that used in regard to numerals and described above.

Signs of words, and even of set phrases or sentences, may be adopted for use and communication in like manner under various forms, as convenience may suggest.

The type for producing the signs of numerals consist, first, of fourteen pieces or plates of thin metal—such as type-metal, brass, iron, or like substances—with teeth or indentations upon one side or edge of ten of said type, corresponding in number to the dots or punctures or marks requisite to constitute the numerals, respectively, heretofore described in the system of signs, and having also a space left upon the side or edge of each type, at one end thereof, without teeth or indentations, corresponding in length with the distance or separation desired between each sign of a numeral. Another of said type has two indentations, forming thereby three teeth only, and without any space at either end, to correspond with the size of a cipher, as heretofore described by reference to Example 1, Modes 1, 2, 3, of drawings in said system of signs. One other of said type is without any indentation on its side or edge, and being in length to correspond with the distance or separation desired between distinct or compound numerals, and with the sign heretofore described for that purpose. One of the remaining two of said type is formed with one corner of it bevelled, (system of type, Example 4, Fig. 1,) and is called a “rest;” and the other is in a pointed form and called a “stop.”

Each of said type is particularly delineated on the annexed drawing, marked Example 4, Fig. 1, and numbered or labelled in accordance with the purpose for which they are designed respectively, and are used in like manner for producing each of the several signs of numerals heretofore described in the system of signs.

Argument of counsel.

The type for producing the signs of numerals consist, secondly, of five pieces or plates of metal, first described above, four of which are the same as are numbered 1, 2, 3, and 4 in the annexed drawing, marked Example 4, Fig. 1, and the fifth one being the same as is denominated in the same example "the long space," and heretofore alluded to ; also, of six other pieces or plates of said metal, varied in indentations and teeth and spaces, as represented on the annexed drawing, marked Example 4, Fig. 2, to produce signs of the denominations described in the fourth mode of the before-mentioned system of signs, Example 1.

The type for producing the signs of letters are of the same denomination with those used in producing signs of numerals, and only varied in form from one to twenty-three, as exhibited in the annexed drawing, marked Example 5.

The type for producing both signs of numerals and signs of letters are adapted for use to either a straight rule, called the "straight port-rule," and are in that case made straight lengthwise, as described in the drawings annexed, and heretofore referred to in Example 5, or to a circular port-rule, in which case they are lengthwise circular or formed into sections of a circle, as represented in the drawings annexed, marked Example 6, Figs. 2 and 3, and as will be further understood by the descriptions hereinafter contained of the straight and circular port-rules. On the under side of the type for the circular port-rule (which type are of greater thickness than those for the straight port-rule) is a groove (system of type, Example 6, A in Figs. 1 and 3) about midway of their width, and in depth about half the thickness aforesaid, and extending from the space ends, as B, Example 6, Fig. 3—that is, the ends without indentations—of said type, along the length, and conforming to the curve thereof, to a point, D D, equal in distance from the opposite ends to half the width of the pointed teeth cut upon their edges. For a delineation of these type reference is made to sections thereof in Figs. 1 and 3 upon the annexed drawings, marked Example 6.

Argument of counsel.

The type-cases are wood or of any other material, with small compartments of the exact length of the type, for greater convenience in distributing, and resembling those in common use among printers.

The type-rules are of wood or metal or other material that may be preferred, and about three feet in length, with a groove, into which the type, when used, are placed. On the under side of each type-rule are cogs, by which they are adapted to a pinion-wheel having corresponding cogs and forming part of a port-rule. The type-rule in use is moved onward as motion is given to the said wheel. A delineation of the type-rule is contained in the annexed drawing, marked Example 7.

The straight port-rule consists of a pinion-wheel, (before mentioned,) turned by a hand-crank attached to a horizontal screw that plays into the cogs of the pinion-wheel, as the latter do into the cogs of the type-rule, or by any other power, in any of the well-known methods of mechanism. It is connected with a railway or groove, in and by which the type-rule, from the motion imparted to it by said wheel, is conveyed in a direct line beneath a lever that breaks and connects the galvanic circuit in the manner hereinafter mentioned. A delineation of said wheel, crank, and screw is contained in the drawings hereunto annexed, marked Example 8, Figs. 1, 2, 3.

The circular port-rule is a substitute, when preferred, for both the type-rule and the straight port-rule, and consists of a horizontal or inclined wheel, Example 9, Fig. 1, A, of any convenient diameter, of wood or metal, having its axis connected on the under side of the wheel with a pinion-wheel K, and as in the case of the straight port-rule. It is moved by the motion of the pinion-wheel, as is the type-rule in the former description. On the entire circumference of said horizontal or inclined wheel, and upon its upper surface, is a shoulder or cavity, *a*, Figs. 1, 2, corresponding in depth with the thickness of the type used, and in width, *b*, equal to that of the type, exclusive of their teeth or indentations. Near the outer edge of the surface of said

Argument of counsel.

shoulder or cavity are cogs *c*, throughout the circumference of the wheel, projecting upward at a distance from each other equal to one-half of the width of the teeth or indentations of the type, and otherwise corresponding in size to the width and depth of the groove D D, Fig. 4, in the under side of the circular type before described and illustrated by reference to Example 6, Figs. 1 and 3. Directly over said shoulder or cavity and cogs, and at one or more points on the circumference of said wheel, is extended, from a fixture outside of the orbit of the wheel, a stationary type-feeder, E, Fig. 1, formed of one end, *e*, and one side, E, perpendicular, of tin or brass plate or other substance, and of interior size and shape to receive any number of the type which are therein deposited, with their indentations projecting outward, as in Fig. 2, and their grooves downward, as in Fig. 4. Said type-feeder is so suspended from its fixture F F over the shoulder or cavity of the wheel A, before described, as to admit of the passage under it of said wheel in its circuit as near the bottom of the feeder as practicable without coming in contact therewith. The type deposited in the feeder, as before mentioned, form a perpendicular column, as in Fig. 2, the lower type of which rests upon the surface of the before-named shoulder of the wheel *b*, Fig. 2, and the cog of the wheel, projecting upward, enters the groove D D, Fig. 4, of the type hereinbefore described.

The operation of said circular port-rule in regulating the movement of the type in use is as follows : When the wheel A is set in motion the type resting immediately upon the shoulder of the wheel in the manner mentioned above, as in Fig. 2, is carried forward on the curvature of the wheel from beneath the column of type resting upon it in the stationary type-feeder by means of one of the before-named cogs coming in contact with that point D, Fig. 3, Example 6, in the groove of the type hereinbefore described as forming the termination of said groove, and which is particularly delineated at the points D D in the annexed drawing, marked Example 6, Fig. 3. As by said process the lower

Argument of counsel.

type in the column that is held by the stationary feeder is carried forward and removed, the next type settles immediately upon the shoulder of the wheel, and, after the manner of the removed type, is brought in contact with another cog of said shoulder within the groove of the type, and thence carried forward from beneath the incumbent column, as was its predecessor. Then follows consecutively in the same method each type deposited within the feeder so long as the wheel is kept in motion. The deposit of the type in the stationary feeder is regulated by the order in which the letters or numerals, or words they represent, are designed to be communicated at any distant point or points. After the type are respectively carried forward on the curvature of the wheel in the manner stated above beyond the point where they are acted upon by the signal-lever, as is hereinafter described, they are lifted, each in its turn, from the shoulder of the wheel A and cast off into a box or pocket, G, below the wheel by means of a slender shaft or spindle, H, made of any metal, and resembling in form a common ploughshare, extending downward from a fixture, c, placed outside of the wheel, into a groove, K, within the before-named shoulder of said wheel A, and on the inner side of the cogs c, already described. By means of said groove the downward point of said shaft or spindle H is brought within the curvature and below the surface of said shoulder b, Fig. 2, and consequently under the approaching end of the type, so that each type successively, as it is carried forward on said curvature in the manner before described, is lifted from the shoulder and forced upward on the inclined shaft or spindle by the type in contact with it at the other end, until turned off into the before-named box or pocket G below, ready for a redistribution.

For a more particular delineation of the several parts of said circular port-rule reference is made to the annexed drawings, marked Example 9, Figs. 1 and 2.

The signal-lever, Example 9, Fig. 3, consists, first, for use with the straight port-rule, (Example 8, Fig. 1, A,) of a strip of wood of any length from six to twenty-four

Argument of counsel.

inches, resting upon a pivot, *a*, or in a notched pillar formed into a fulcrum by a metal pin, *a*, passing through it and the lever. At one end of the lever a metallic wire, bent to a semicircular or half-square form, as at A, or resembling the prongs of a fork distended, is attached by its centre, as described in the annexed drawings, Example 8, at the point marked A. Between said end of the lever and the fulcrum *a*, and near the latter, on the under side of the lever A, is inserted a metallic tooth or cog, *b*, curved on the side nearest to the fulcrum, and in other respects corresponding to the teeth or indentations upon the type already described. On the opposite extremity of the lever is a small weight, C, to balance or offset in part when needed, the weight of the lever on the opposite side of the fulcrum. The lever thus formed is stationed directly over the railway or groove D D, heretofore described as forming a connected part of the straight port-rule. The movement of the type-rule brings the tooth of each type therein set in contact with the tooth or cog of the lever, and thereby forces the lever upward until the points of the two teeth in contact have passed each other, when the lever again descends as the teeth of the type proceed onward from the tooth of the lever. This operation is repeated as frequently as the teeth of the type are brought in contact with the tooth of the lever. By thus forcing the said lever upward and downward the ends of the semicircular or pronged wire are made alternately to rise from and fall into two small cups or vessels of mercury, E E, in each of which is an end or termination of the metallic circuit-conductors first described above. This termination of the metallic circuit in the two cups or vessels breaks and limits the current of electricity or galvanism through the circuit; but a connection of the circuit is effected or restored by the falling of the two ends of the pronged wire A, attached to said lever, into the two cups, connecting the one cup with the other in that way. By the rising of the lever, and consequently the wire upon its end, from its connection with said cups said circuit is in like manner again broken and the current of electricity or

Argument of counsel.

galvanism destroyed. To effect at pleasure these two purposes of breaking and connecting said circuit. is the design of said motion that is imparted in the before-mentioned manner to said lever, and to regulate this motion and reduce it to the system of intelligible signs before described is the design and use of the variations in the form of the type, also before described. A plate of copper, silver, or other conductor connected with the broken parts of said circuit of conductors, and receiving the contact of the wire attached to said lever, may be substituted, if preferred, for said cups of mercury. For a particular delineation of the several parts of said lever reference is made to the annexed drawing, marked Example 8.

The signal-lever consists, secondly, for use with the circular port-rule, (Example 9, Fig. 3,) of a strip of wood, G, with a metallic wire, A, at one end, of the form and for the purposes of the lever already described above. It turns on a pivot or fulcrum, *a*, placed either near the middle or in the end of the lever. At the end of the lever, at C, opposite to the metallic wire A, an elbow, *c*, is formed on a right angle with the main lever, and extending downward from the level with the pivot or fulcrum sufficiently for a metallic tooth, H, in the end thereof, corresponding with the teeth or indentations of the type already described, to press against the type projecting from the shoulder or cavity of the wheel A, Fig. 1, that forms the circular port-rule before described. Said wheel is placed beneath the said lever, as seen at G, Fig. 1, in a position to be reached by the extremity or tooth H of the arm of the lever just mentioned. The tooth H in the arm of the lever is kept in constant contact with the type of the circular port-rule by the pressure of a spring, B, upon it, as described in the annexed drawing, marked Example 9, at B. Figs. 1 and 3 in the same example exhibit sections of the said lever. The action thus produced by the contact of the teeth of the type in the port-rule when said wheel is in motion with the tooth in the arm of the lever lifts up and drops down the opposite extremity A of said lever having the metallic wire upon it as

the tooth of said lever passes into or out of the indentations of the type, and in the same manner and to the same effect as the first-described lever rises and falls, and accordingly breaks and closes the circuit of conductors, as in the former instance. In the use of this circular port-rule and its appropriate lever (Fig. 3) type may be used having the points of their teeth and their indentations shaped as counterparts or reverses to those delineated in the annexed drawings, heretofore referred to and marked Examples 4, 5, and 6, and thereby the forms of the recorded signs will be changed in a corresponding manner.

The register consists—

First, of a lever of the shape of the lever connected with the circular port-rule above described, and is delineated in the annexed drawings, marked Example 10, Figs. 1, 2, and 4, at A. Said lever A operates upon a fulcrum, *a*, that passes through the end that forms the elbow *a*, upon the lower extremity of which, and facing an electro-magnet, is attached the armature of a magnet, *f*. In the other extreme of the lever, at B, is inserted one or more pencils, fountain-pens, printing-wheels, or other marking-instruments, as may be seen in the Fig. 4 of example last mentioned at letter B. The magnet is at letter C in the same figure.

Secondly, of a cylinder or barrel of metal or wood and covered with cloth or yielding coating, to turn upon an axis, and occupying a position directly beneath the pencil, fountain-pen, printing-wheel, or other marking-instrument, to be used as exhibited in the last-mentioned example of drawing, Fig. 4, D. Two rollers, marked *b b* in said figure of drawings, are connected with said cylinder, on the upper-side curvatures thereof, and being connected with each other by two narrow bands of tape passing over and beneath each, near the ends thereof, and over the intervening surface of the cylinder, in a manner to cause a friction of the bands of tape upon the latter when in motion, as delineated in the last-named example, Fig. 4, at points marked *c c c*. The distance between said bands of tape on the rollers

Argument of counsel.

is such as to admit of the pencil or other marking instrument in the lever to drop upon the intervening space of the cylinder. Near by said cylinder is a spool to turn on an axis, and marked *d* in the said figure, to receive any desired length of paper or other substance formed into slips or a continuous ribbon, and for the purpose of receiving a record of the signs of intelligence communicated. When the register is in motion, one end of the paper on said spool being inserted between the under surfaces of said two rollers, under the strips of tape that connect them and the cylinder, it is drawn by the friction or pressure thus caused upon it forward from said spool gradually and passed over said cylinder, and is thence deposited in a box on the opposite side or is cut off at any desired length as it passes from the cylinder and rollers.

Thirdly, of an alarm-bell, A, Example 10, Fig. 5, which is struck by means of a lever-hammer, B, that is acted upon by a movable cog, *b*, placed upon an axis or pin, *b*, that confines it in the lower extremity of a pendulum-lever, (marked E in Fig. 5 of Example 10,) having an armature of a magnet attached to it at *d* and acted upon by an electro-magnet, *c*, placed near it and the before-named magnet, and in the same circuit of conductors with the latter. Said cog *b* moves in a quarter-circle only, as the motion of said arm of the lever passes backward and forward in the act of recording, as hereinafter described. When forced into a horizontal position in said quarter-circle it ceases to act upon the hammer; but when moved from a perpendicular position it presses upon the projection in the end of the hammer, causing the opposite end of the hammer to be raised, from which elevation it again falls upon a stationary bell, A, as soon as said cog reaches a horizontal position, and ceases, as before mentioned, to press upon the hammer. Thus a notice by sound or an alarm is given at the point to which intelligence is to be communicated as soon as the register begins to act, and such sound may be continued or not, at pleasure, for the purpose mentioned, or for any other uses, as the hammer shall be suspended or not from

Argument of counsel.

contact with the bell or with any number of bells that may be employed. Fig. 5 of said example, marked 10 in the annexed drawings, represents sections of said hammer and bell.

Said several parts of the register are set in motion by the communication to or action upon the before-named armature of a magnet attached to the lever of the register, of the electric or galvanic current in the circuit of conductors, and from an electro-magnet in said circuit, as before described, stationed near the said armature. As said armature is drawn or attracted from its stationary and horizontal position toward the said magnet, when the latter is charged from the circuit of conductors, said lever is turned upon its fulcrum, and the opposite end thereof necessarily descends and brings the pen or marking-instrument which it contains in contact with the paper or other substance on the revolving cylinder directly beneath it. As said armature ceases to be thus drawn or attracted by said magnet, as is the case as soon as said magnet ceases to be charged from the circuit of conductors, or as the current in said circuit is broken in the manner hereinbefore described, the said armature is forced back by its own specific gravity or by a spring or weight, as may be needed, to its former position, and the pen or marking-instrument in the opposite end of the lever is again raised from its contact with the paper or other substance on the before-named revolving cylinder. This same action is communicated simultaneously from the same circuit of conductors to as many registers as there are corresponding magnets provided within any circuit and at any desired distances from each other.

The cylinder and its two associate rollers are set in motion simultaneously with the first motion of the lever by the withdrawal of a small wire or spindle, *g*, Example 10, Figs. 2 and 5, from beneath one branch of a fly-wheel, *k*, that forms a part of the clock machinery hereinafter named. Said wire *g* is withdrawn by the action upon said wire of a small electro-magnet, *o*, Figs. 2 and 5, stationed in the circuit and near the large magnet before named, as delineated

Argument of counsel.

in Fig. 5, of Example 10. Said cylinder and rollers are subsequently kept in motion by a train of wheels similar to common clock-wheels, as in Figs. 2 and 3, acted upon by a weight, raised as occasion may require by a hand-crank, and their motion is regulated by the same wheels to correspond with the action of the registering-pen or marking-instrument. Said train is represented in Figs. 1, 2, and 3 of said Example 10.

The electro-magnet thus used is made in any of the usual modes, such as winding insulated copper wire, or strips of copper, or tin-foil, or other metal around a bar of soft iron, either straight or bent into a circular form, and having the two extremities of the coils connected with the circuit of conductors, so that the coils around the magnet make part of the circuit.

To extend more effectually the length of any desired circuit of conductors, and to perpetuate the power of the electric or galvanic current equally throughout the same, I adopt the following mode, and also for connecting and using any desired number of additional and intervening batteries or generators of said current, and for connecting progressively any number of consecutive circuits, viz.: Place at any point in a circuit an electro-magnet of the denomination already described, with an armature upon a lever of the form and structure, and in the position of that used at the register to hold and operate the marking-instrument, with only a substitution therein for such marking-instrument of a forked wire, A, Example 9, Fig. 3, like that upon the end of the signal-lever heretofore described. Directly beneath the latter wire place two cups of mercury, E E, or two metallic plates joined to terminations of a circuit leading from the fresh or additional battery or generator of said circuit, in the same manner as they are to be provided in the first circuit of conductors at the points where the cups of mercury are hereinbefore described. As the current in the first circuit acts upon the magnet thus provided the armature thereof and lever are thereby moved to dip the forked wire A into the cups of the second circuit,

Argument of counsel.

as in the circuit first described. This operation instantly connects the break in said second circuit, and thus produces an additional and original power or current of electricity or galvanism from the battery of said second circuit to the magnet or magnets placed at any one or more points in such circuit, to be broken at pleasure, as in the first circuit ; and from thence, by the same operation, the same results may again be repeated, extending and breaking at pleasure such current through yet another and another circuit, *ad infinitum*, and with as many intervening registers for simultaneous action as may be desired, and at any distances from each other.

The dictionary or vocabulary consists of words alphabetically arranged and regularly numbered, beginning with the letters of the alphabet, so that each word in the language has its telegraphic number, and is designated at pleasure through the signs of numerals.

The modes which I propose of insulating the wires or other metal for conductors and of laying the circuits are various. The wires may be insulated by winding each wire with silk, cotton, flax, or hemp, and then dipping them into a solution of caoutchouc, or into a solution of shellac, or into pitch or resin and caoutchouc. They may be laid through the air, enclosed above the ground, in the ground, or in the water. When through the air they may be insulated by a covering that shall protect them from the weather—such as cotton, flax, or hemp—and dipped into any solution which is a non-conductor, and elevated upon pillars. When enclosed above the ground they may be laid in tubes of iron or lead, and these, again, may be enclosed in wood, if desirable. When laid in the ground they may be enclosed in iron, leaden, wooden, or earthen tubes, and buried beneath the surface. Across rivers the circuit may be carried beneath the bridges, or, where there are no bridges, enclosed in lead or iron and sunk at the bottom, or stretched across, where the banks are high, upon pillars elevated on each side of the river.

Argument of counsel.

What I claim as my invention, and desire to secure by Letters Patent, is as follows :

1. The formation and arrangement of the several parts of mechanism constituting the type-rule, the straight port-rule, the circular port-rule, the two signal-levers, and the register-lever and alarm-lever, with its hammer, as combining respectively with each of said levers one or more armatures of an electro-magnet, and as said parts are severally described in the foregoing specification.

2. The combination of the mechanism constituting the recording-cylinder and the accompanying rollers and train-wheels with the formation and arrangement of the several parts of mechanism, the formation and arrangement of which are claimed as above and as described in the foregoing specification.

3. The use, system, formation, and arrangement of type and of signs for transmitting intelligence between distant points by the application of electro-magnetism and metallic conductors combined with mechanism described in the foregoing specification.

4. The mode and process of breaking and connecting by mechanism currents of electricity or galvanism in any circuit of metallic conductors, as described in the foregoing specification.

5. The mode and process of propelling and connecting currents of electricity or galvanism in and through any desired number of circuits of metallic conductors from any known generator of electricity or galvanism, as described in the foregoing specification.

6. The application of electro-magnets by means of one or more circuits of metallic conductors from any known generator of electricity or galvanism to the several levers in the machinery described in the foregoing specification, for the purpose of imparting motion to said levers and operating said machinery, and for transmitting by signs and sounds intelligence between distant points and simultaneously to different points.

Argument of counsel.

7. The mode and process of recording or marking permanently signs of intelligence transmitted between distant points and simultaneously to different points by the application and use of electro-magnetism or galvanism, as described in the foregoing specification.

8. The combination and arrangement of electro-magnets in one or more circuits of metallic conductors with armatures of magnets for transmitting intelligence by signs and sounds, or either, between distant points and to different points simultaneously.

9. The combination and mutual adaptation of the several parts of the mechanism and system of type and of signs with and to the dictionary or vocabulary of words, as described in the foregoing specification.

In testimony whereof I, the said SAMUEL F. B. MORSE, hereto subscribe my name, in the presence of the witnesses whose names are hereto subscribed, on the 7th day of April, A.D. 1838.

SAML. F. B. MORSE.

Witnesses :

B. B. FRENCH,
CHARLES MONROE.

UNITED STATES PATENT OFFICE. SAML. F. B. MORSE,
OF NEW YORK, N. Y. IMPROVEMENT IN THE MODE OF
COMMUNICATING INFORMATION BY SIGNALS BY THE
APPLICATION OF ELECTRO-MAGNETISM.* SPECIFICATION
FORMING PART OF LETTERS PATENT NO. 1,647, DATED
JUNE 20, 1840; REISSUE NO. 79, DATED JANUARY 15,
1846.

To all whom it may concern :

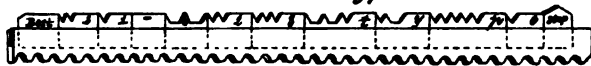
Be it known that I, SAMUEL F. B. MORSE, of the city, county, and State of New York, have invented a new and useful apparatus for and system of transmitting intelligence

* Sheets 1 and 2 of drawings of this reissue are identical with Sheets 1 and 8 of the drawings in the original, No. 1,647, (p. 541.)

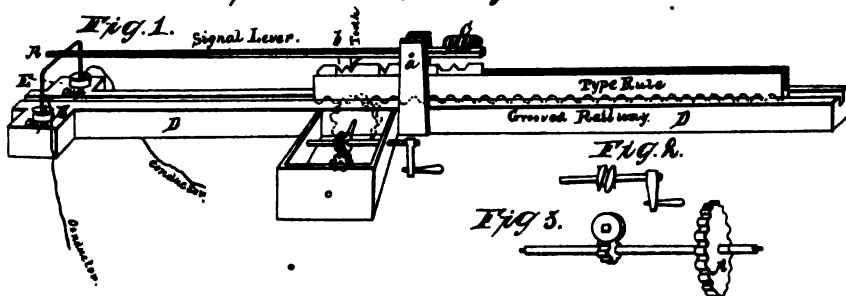
4 Sheets Sheet 3

S. F. B. Morse,
Electric Telegraph.
No 79. Reissued Jan. 15, 1846.

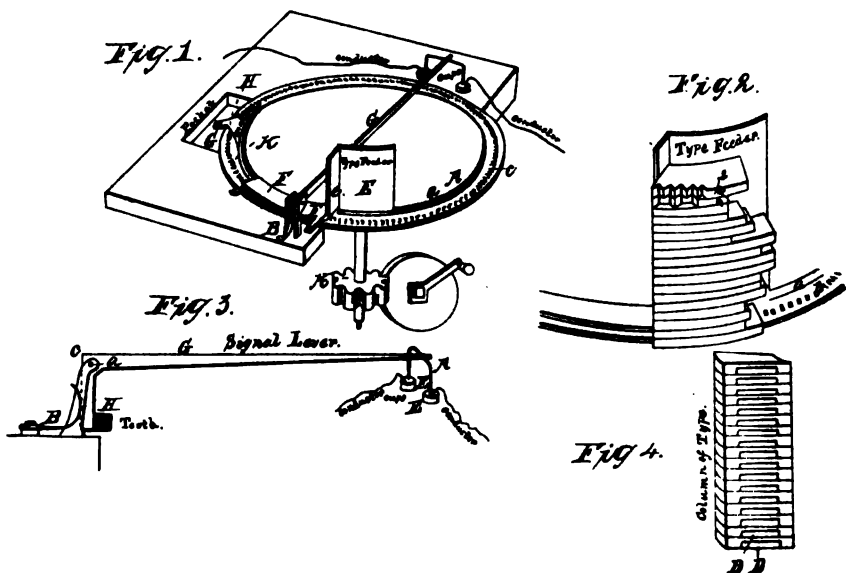
Example 7. Type Rule.



Example 8. # Straight Port-rule.



Example 9. # Circular Port-rule.



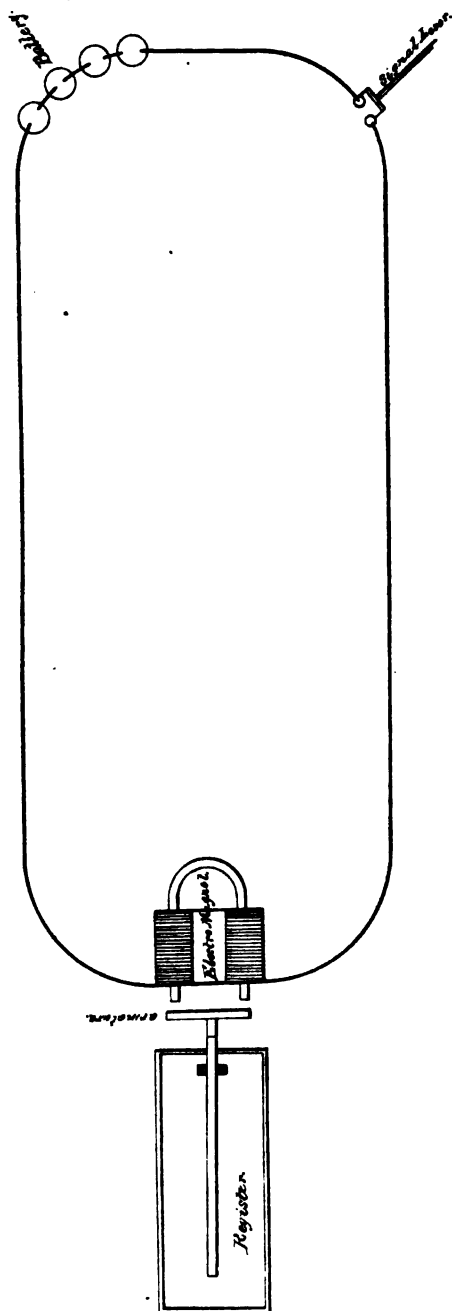


S. F. B. Morse, 4 Sheets, Sheet 4
Electric Telegraph.

No 79.

Reissued Jan. 15, 1846.

Diagram. No 11.



Argument of counsel.

between distant points by means of electro-magnets, which put in motion machinery for producing sounds or signs and recording said signs upon paper or other suitable material, which invention I denominate the "American Electro-Magnetic Telegraph;" and I do hereby declare that the following is a full, clear, and exact description of the principle or character thereof which distinguishes it from all other telegraphs previously known, and of the manner of making and constructing said apparatus and applying said system, reference being had to the accompanying drawings, making part of this specification, in which—

Example 1 is a sample of signs intended for numerals; Example 2, signs for compound numerals. Example 3 are signs for letters, and Examples 4, 5, and 6 are specimens of the form of types used. Example 7 is the type-rule; Example 8, apparatus for connecting and breaking the electrical or galvanic circuit. Example 9 is a modified apparatus for the same purpose. Example 10, Figure 1, is a perspective view of the registering apparatus; Fig. 2, a top plan; Fig. 3, a side elevation of the train of wheels for moving the paper and regulating its motion; Fig. 4, a sectional elevation of the registering-lever and parts appended thereto; Fig. 5, alarm apparatus; Example 11, a diagram showing the relative positions of the different parts of an approved form of apparatus.

It has heretofore been essayed to use the currents of electricity or galvanism for telegraphic purposes either by decomposition or the action or exercise of the deflective force of a current upon a magnetized bar or needle, which decomposition or reflection required to be noted by ocular inspection at the instant the sign was made.

By my invention the intelligence can be transmitted and imprinted on paper or other suitable substance without requiring the aid of any person at the station to which the communication is transmitted, so as to be read at any time thereafter.

The apparatus consists of two principal parts connected by wires, as shown in the Diagram No. 11, or other suitable

Argument of counsel.

galvanic or electric conductors to form a circuit, in which is placed any suitable generator of galvanism or electricity as the inducing power.

The first part of my telegraph is for communicating intelligence to the second, where it is recorded ; and it consists of apparatus for making and breaking the circuit above named. At any convenient point in the circuit (generally near the generator) a break is made in the conductor, and the two ends thereof are immersed in mercury-cups, as shown in the drawings at E E, Fig. 1, Example 8. To correct the circuit I employ an inverted **V**-formed piece of metal or other proper conductor, A, suspended over the mercury-cups E E on the end of a horizontal lever, denominated in said drawing the "signal-lever," whose fulcrum is at *a*, so that when the connector A is dipped into the cups the circuit is completed. Between the fulcrum and connector A there is affixed to the under side of the lever, and projecting downward, a triangular tooth, *b*, which bears on the upper surface of the types about to be described, and is raised and lowered by them. The lever may be counterbalanced, as at C, to make it move easy. The types are composed of flat straight strips of metal, as shown in Examples 4 and 5 of the drawings, hereunto annexed, having their upper edges indented to suit the character to be represented, and which will be hereinafter more fully set forth in the description of the operation of the machine. The indentations are sufficiently deep to allow the connector A to be plunged into the mercury-cups, and the highest surface raises it from them. It is obvious that the forms of the upper surface of the types may be reversed and the cog *b* placed on the other side of the fulcrum, and the same effect be produced. The types are set up and confined in a rule to form any required sentences in one long line. This rule, which in the drawings, Example 8, is denominated a "type-rule," has on its under side a rack that gears into a pinion, *x*, on a shaft under the grooved railways D, of common construction, on which said rule slides, and is directed under the cog *b* on the lever. The types are advanced at a

Argument of counsel.

regular speed by the application of any convenient power to the pinion *x* and bring notches in them successively under the cog.

Other modifications of this apparatus can be made, some of which are shown in the drawings, Example 9, in which is represented what I denominate a "circular port-rule," in which the type are made to surround a disk, A, radially, the other parts of the apparatus being made to correspond. In this modification there may be a stationary hopper or type-feeder, E, into which the types are placed flatwise, one above another, as shown at Fig. 2, placed over the space that is to receive the types on the disk A, and as the disk revolves the types placed in the feeder fall successively into place on the disk and are carried past the signal-lever, where they act, and are then carried off from the disk by a guide, H, into a receiver, G. Many other devices have been suggested for effecting the same object—viz., making and breaking the circuit; but I believe these examples will illustrate the principle. The mercury-cups may be dispensed with and suitable metal plates substituted therefor.

The second part of my apparatus is for registering the signals or sentences communicated from the station where the apparatus heretofore described is situated; and it consists of an electro-magnet, which is in and connected with the above-described circuit, and clock-work for moving the paper or other registering medium, and an alarm may also be appended. The electro-magnet may be of any convenient construction, and will be charged every time the circuit is closed, as above, and discharged when it is broken. Opposite the bars of the electro-magnet (Example 10) C is placed an armature, *f*, suspended on the upright arm of a bent lever, A, the fulcrum of which is at *a*. This is most clearly represented in section, Fig. 4. To the end of the horizontal arm of this lever there is attached one or more pencils, fountain-pens, or other suitable marking-instruments, directly under which is placed a suitable cylinder, D, over which the paper passes on which the register is made. This cylinder turns on its axis, and is connected by a train of

Argument of counsel.

wheels and pinions with a barrel, *m*, of common construction, which is driven by a weight and cord wound thereon, and also with a fly, *k*, which regulates its motion. Near the cylinder D a reel or spool, *d*, is placed, on which a strip of paper is wound, the end of which is carried over the cylinder D, and is confined thereon by means of two tapes or endless bands, one at each edge, which pass around two pulleys, *b b*, one on each side of cylinder D. This is clearly represented in Figs. 2 and 4. By this arrangement it will be seen that when the electro-magnet is charged the marking instrument will be brought down onto the paper, which is at the same time put in motion by removing a wire, *g*, which is so connected with the armature that it can be drawn back from the fly *k*, and allow it to turn, (see Figs. 4 and 5,) and makes a mark, longer or shorter, according to the time the circuit is closed.

My system of characters consists of dots and lines, variously combined to form letters and other characters, a specimen of which is represented in Examples 1, 2, and 3. To make a dot a notch is required in the types, into which the cog on the signal-lever will fall and instantly rise from as the type moves on; and when a line is to be formed the notch in the type is extended, so that the lever will remain down for a space of time sufficient to make the line required.

The alarm-bell (shown at A, Example 10, Fig. 5) is struck by means of a hammer actuated by a supplementary electro-magnet placed in the same circuit as that first named. The machinery for this purpose may be variously modified, and therefore no particular description need be given.

Any convenient number of registering-stations may be connected with the same circuit, all constructed and operating as above described.

To extend more effectually the communication by my apparatus, I adopt the following arrangement, whereby I can use any number of additional batteries or generators of said current, and by which I can connect progressively any number of consecutive circuits, viz.: I place at any point

Argument of counsel.

in the first circuit an electro-magnet, with an armature opposite, on a lever like that described for registering ; but instead of the marking-instrument I attach to the end of the lever a conductor, such as is described on the first or signal lever. This connects the conductors of a new circuit, attached to another battery, and this might be continued on *ad infinitum*.

The conductors may be insulated in any convenient way, and may be extended above or below the surface of the earth, as shall be found most desirable, and sustained or enclosed by any suitable construction.

It will be observed that any vocabulary, system of signs, or secret writing by cipher can be conveniently used in communicating by this telegraph, and any mode of making or breaking the circuit can be adopted, the object being to do so at proper intervals.

Having thus fully described my invention, I wish it to be understood that I do not claim the use of the galvanic current or currents of electricity for the purpose of telegraphic communication ; but

What I specially claim as my invention and improvement is—

1. Making use of the motive power of magnetism when developed by the action of such current or currents, as a means of operating or giving motion to machinery, which may be used to imprint signals upon paper or other suitable material or to produce sounds in any desired manner for the purpose of telegraphic communication. (The only ways in which the galvanic current has heretofore been proposed to be used is by decomposition and the action or exercise of the deflective force of a current upon a magnetized bar or needle, and the decompositions and deflections thus produced were the subject of inspection, and had no power of recording the communication. I therefore characterize my invention as the first recording or printing telegraph by means of electro-magnetism. There are various known modes of producing motions by electro-magnetism, but none of these have hitherto been applied to actuate or give

Argument of counsel.

motion to printing or recording machinery, which is the chief point of my invention and improvement.)

2. The system of signs consisting of dots and lines, substantially as herein set forth and illustrated, in combination with the telegraph for recording signals.

3. The types and rule, in combination with the signal-levers, as herein described, for the purpose of connecting and breaking the current of galvanism and electricity.

4. In combination with an electro-magnet used for telegraphic purposes, the train of clock-work actuated by a weight or spring for the purpose of carrying the material on which the record is to be made under the registering-pen, substantially in the manner specified.

5. The combination of two or more circuits of galvanism or electricity generated by independent batteries by means of electro-magnets, as above described.

In testimony whereof I have hereunto subscribed my name, this 27th day of December, 1845, to the above amended specification of the invention for which Letters Patent were granted to me on the 20th day of June, 1840.

SAML. F. B. MORSE.

Witnesses :

JAMES MACGREGOR, JR.,

A. P. BROWNE.

UNITED STATES PATENT OFFICE. S. F. B. MORSE, OF
POUGHKEEPSIE, NEW YORK. IMPROVEMENT IN ELECTRO-MAGNETIC TELEGRAPHS.* SPECIFICATION FORMING
PART OF LETTERS PATENT NO. 1,647, DATED JUNE 20,
1840; REISSUE NO. 79, DATED JANUARY 15, 1846;
REISSUE NO. 117, DATED JUNE 13, 1848.

To all whom it may concern :

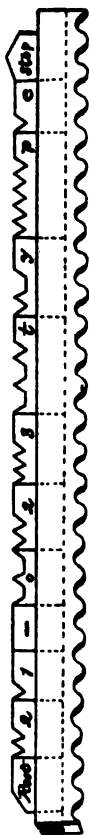
Be it known that I, SAMUEL F. B. MORSE, now of Poughkeepsie, in the county of Dutchess, in the State of New York, have invented a new and useful apparatus for and a

* Sheets 1, 3, and 4 of this reissue are identical with Sheets 1, 3, and 4 of the drawings in the original, No. 1,647, (p. 541.)

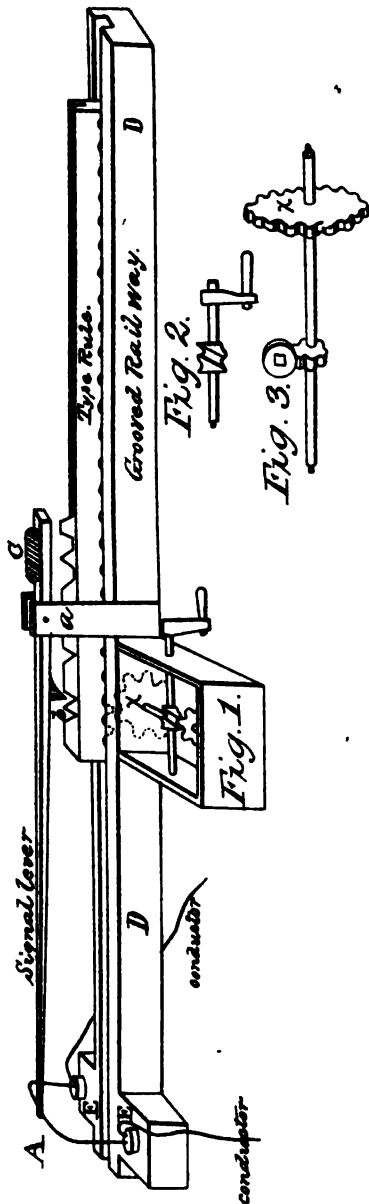
The System of Mechanism.

Example. 7.

Type Rule.



Example. 8.
Straight Port Rule.



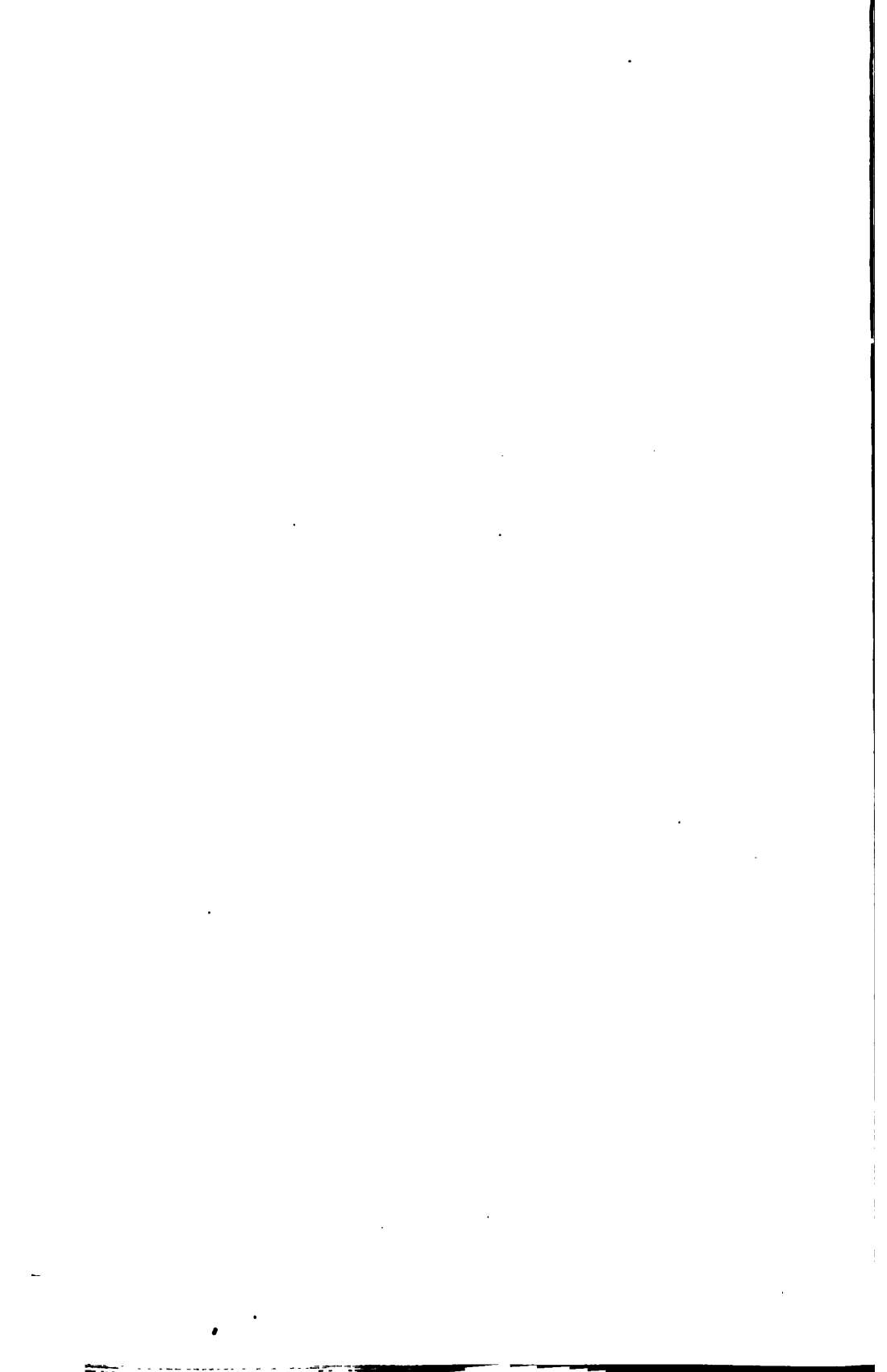
4 Sheets, Sheet 2

S. F. B. Morse,

Printing Telegraph.

No 117.

Reissued June 13, 1848.



Argument of counsel.

system of transmitting intelligence between distant points by means of electro-magnetism, which puts in motion machinery for producing sounds or signs, and recording said signs upon paper or other suitable material, which invention I denominate the "American Electro-Magnetic Telegraph;" and I do hereby declare that the following is a full, clear, and exact description of the principle or character thereof, which distinguishes it from all other telegraphs previously known, and of the manner of making and constructing said apparatus and applying said system, reference being had to the accompanying drawings, making part of this specification, in which—

Examples 1, 2, and 3 show my system of signs, consisting of a combination of dots and spaces, and of dots, spaces, and horizontal lines, intended to represent—example 1, signs for numerals; example 2, signs for compound numerals; example 3, signs for letters; all which signs may also represent words or sentences. Examples 4, 5, and 6 are specimens of the form of type used for regulating the imprinting of the signs. Example 7 is the type-rule; example 8, apparatus for connecting and breaking the electrical or galvanic circuit. Example 10, Figure 1 is a perspective view of the registering apparatus; Fig. 2, a top plan; Fig. 3 a side elevation of the train of wheels moving the paper and regulating its motion; Fig. 4, a sectional elevation of the registering-lever and parts appended thereto; Fig. 5, alarm apparatus. Example 11 is a diagram showing the relative positions of the different parts of an approved form of apparatus, including a combination of circuits.

Prior to my first application for a patent it had been essayed to use the currents of electricity or galvanism for telegraphic purposes, either by decomposition or the action or exercise of the deflective force of a current upon a magnetized bar or needle, which decomposition or deflection required to be noted by ocular inspection at the instant the sign was made.

By my invention the intelligence can be transmitted and imprinted on paper or other suitable substance without

Argument of counsel.

requiring the aid of any person at the station to which the communication is transmitted, so as to be read at any time thereafter. My apparatus for this purpose consists of two principal parts or combinations.

The first part consists of a galvanic battery or any known generator of galvanism or electricity, a galvanic or electric circuit composed of any known conductors of electricity, a port-rule and signal-lever or other contrivance for closing and breaking the circuit, all in combination with an electro-magnet or device by which the motive power of the electric or galvanic current, which I call "electro-magnetism," may be developed and applied to give motion to other machinery for the purpose of marking or imprinting intelligible characters, signs, or letters at any distances. The conductors may be suspended in the air upon posts or otherwise, or buried in the ground, being always well insulated at the posts or in the ground. This combination is illustrated in the annexed drawings in example 11, Fig. 2, where D indicates the battery; *a*, the circuit; E, the port-rule; B, the signal-lever, and C the electro-magnet.

The new parts and the operation of this portion of my apparatus I thus further describe, viz.:

At any convenient point in the circuit (generally near the generator) a break is made in the conductor, and the two ends thereof are immersed in mercury-cups, as shown in the drawings at E E, Fig. 1, example 8. To connect the circuit I employ an inverted U-formed piece of metal or other proper connector, A, suspended over the mercury-cups E E on the end of a horizontal lever, denominated in said drawing the "signal-lever," whose fulcrum is at *a*, so that when the connector A is dipped into the cups the circuit is completed. Between the fulcrum and connector A there is affixed to the under side of the lever, and projecting downward, a triangular tooth, *b*, which bears on the upper surface of the types about to be described, and is raised or lowered by them.

The lever may be counterbalanced by a weight or its equivalent, as at C, to make it move easily.

Argument of counsel.

The types are composed of flat straight strips of metal, as shown in examples 4 and 5 of the drawings hereunto annexed, having their upper edges indented to suit the character to be represented, and which will be hereinafter more fully set forth in the description of the operation of the machine. The indentations are made of sufficient depth to allow the connector A to be plunged into the mercury-cups, and the highest surface raises it from them.

It is obvious that the forms of the upper surface of the types may be reversed and the cog *b* placed on the other side of the fulcrum, and the same effect would be produced. The types are set up and confined in a rule to form any required sentences in one long line. This rule, denominated in the drawings, example 8, a "type-rule," has on its under side a rack that gears into a pinion, *x*, on a shaft under the grooved railways D, of common construction, on which said rule slides, and is directed under the cog *b* on the lever. The types are advanced at a regular speed by the application of any convenient power to the pinion *x*, and bring the notches or raised and depressed parts successively under the cog *b*.

The mercury-cups may be dispensed with, and any other convenient metallic contact be made to accomplish the same end, and the closing and breaking of the circuit may be effected by applying the hand or any other machinery to the signal-lever, or by any other mode adapted to the same end. The closing of the circuit by the depression of the signal-lever causes the electric current to run upon the circuit *a a*, example 11, Fig. 2, and through the helices of the electro-magnet C, which is thus charged with power to move any machinery which may be connected with it in a proper manner.

The second part of my invention consists of a register for recording the characters, signs, or letters transmitted from any distance, and is composed of the following parts in combination, viz.:

A bent lever, A, as shown most distinctly in example 10, Fig. 4. To one arm of this lever there is attached one or

Argument of counsel.

more pencils, fountain-pens, or other suitable marking-instruments, B, directly under which is placed a suitable cylinder, D, over which the paper passes on which the markings for signs are made. This cylinder turns on its axis, and is connected by a train of wheels and pinions, with a barrel, *m*, Fig. 3, example 10, of common construction, which is driven by a weight and cord wound thereon. and also with a fly, K, of same figure, which regulates its motion. To the other arm of the lever (which is also an armature) is affixed a spiral spring, *i*, as seen in example 10, Figs. 1 and 4.

Near the cylinder D a reel or spool, *d*, is placed, on which a strip of paper or other markable material is wound, the end of which is carried over the cylinder D, and is confined thereon by means of two tapes and endless bands or their equivalents, one at each edge, which pass around two pulleys, *b b*, one on each side of cylinder D. This is clearly represented in Figs. 2 and 4, example 10. The clock-work is kept at rest by a detent, *z*, in contact with the fly-wheel *k* in Fig. 3, and connected with the lever, as shown in Fig. 5.

To the register may be attached an alarm-bell, as shown in example 10, Fig. 5, the machinery for striking which may be variously modified, and therefore need not be described.

The register or second part of my invention is operated upon by the first part in the following manner, viz.: The short end of the pen-lever in the second part, as seen in example 10, Fig. 4, is an armature *f*, which is brought in proximity to the electro-magnet C in the circuit *a a*, as shown in example 11, Fig. 2, and in example 10, Fig. 4. The electro-magnet C, being charged by closing the circuit, attracts the armature, bringing it nearly in contact, thus imparting a movement to the lever A. By this movement of the lever the detent, Fig. 5, example 10, is removed from the fly-wheel, and the clock-work begins to move, carrying the paper over the cylinder D, and at the same time the fountain-pen, pencil, or other marking-instrument is by the

Argument of counsel.

action of the lever set in motion. The circuit being broken, the lever is brought back to its position by the spiral spring *f*, and by the closing and breaking of the circuit more or less rapidly dots and spaces and marks of any required length are made upon the paper, and in any required combinations.

My system of characters consists of dots, spaces, and lines variously combined to form letters and other characters, a specimen of which is represented in examples 1, 2, and 3.

To make a dot, a notch or indentation is required in the types, into which the cog or tooth on the signal-lever will fall and instantly rise from as the types move onward ; and when a line is to be formed on the paper at the register as a sign the notch in the type is extended, so that the lever will remain down for a space of time sufficient to make the line required.

The alarm-bell (shown at A, example 10, Fig. 5) may be struck by means of a hammer actuated by a supplementary electro-magnet placed in the same circuit as that first named.

Any convenient number of registers and registering-stations may be connected with the same circuit, all constructed and operating as above described.

To extend more effectually the communication by my apparatus, I adopt the following arrangement, whereby I can use any number of additional batteries or generators of electricity, and by which I can connect progressively any number of consecutive circuits, viz.: I place at any point in the first circuit an electro-magnet, and opposite its poles I place an armature on a lever like that described for registering ; but instead of using the said lever to mark with, I use it to close and break a second circuit precisely as the signal-lever is used to close and break the first circuit. The second circuit has an independent battery, and may be used to work a register or other apparatus for registering, or to close and break a third circuit, or both, and thus by a combination of circuits the requisite power can be obtained at

Argument of counsel.

any distances *ad infinitum*. This combination is shown in example 11, Fig. 1.

It will be observed that my vocabulary system of signs or secret writing by cipher can be conveniently used in communicating by this telegraph, and any mode of closing and breaking a circuit may be adopted, the object being to do so at proper intervals.

I do not propose to limit myself to the specific machinery or parts of machinery described in the foregoing specification and claims, the essence of my invention being the use of the motive power of the electric or galvanic current, which I call "electro-magnetism," however developed, for marking or printing intelligible characters, signs, or letters at any distances, being a new application of that power of which I claim to be the first inventor or discoverer.

Having thus fully described my invention, I wish it to be understood that I do not claim the use of the galvanic current or currents of electricity for the purpose of telegraphic communications generally ; but

What I specially claim as my invention and improvement is—

1. Making use of the motive power of magnetism when developed by the action of such current or currents, substantially as set forth in the foregoing description of the first principal part of my invention, as means of operating or giving motion to machinery which may be used to imprint signals upon paper or other suitable material, or to produce sounds in any desired manner for the purpose of telegraphic communication at any distances. (The only ways in which the galvanic current had been proposed to be used prior to my invention and improvement were by bubbles resulting from decomposition and the action or exercise of electrical power upon a magnetized bar or needle and the bubbles, and the deflections of the needles thus produced were the subjects of inspection, and had no power, or were not applied to record the communication. I therefore characterize my invention as the first recording or

Argument of counsel.

printing telegraph by means of electro-magnetism. There are various known modes of producing motions by electro-magnetism ; but none of these had been applied prior to my invention and improvement to actuate or give motion to printing or recording machinery, which is the chief point of my invention and improvement.)

2. The employment of the machinery called the "register" or "recording-instrument," composed of the train of clock-wheels, cylinders, and other apparatus, or their equivalents, for moving the material upon which the characters are to be imprinted, and for imprinting said characters, substantially as set forth in the foregoing description of the second principal part of my invention.

3. The combination of the machinery herein described, consisting of the generator of electricity, the circuit of conductors, the contrivance for closing and breaking the circuit, the electro-magnet, the pen or contrivance for marking, and the machinery for sustaining and moving the paper, all together constituting one apparatus or telegraphic machine, which I denominate the "American Electro-Magnetic Telegraph."

4. The combination of two or more galvanic or electric circuits with independent batteries, substantially by the means herein described, for the purpose of obviating the diminished force of electro-magnetism in long circuits, and enabling me to command sufficient power to put in motion registering or recording machinery at any distances.

5. The system of signs consisting of dots and spaces, and of dots, spaces, and horizontal lines, for numerals, letters, words, or sentences, substantially as herein set forth and illustrated, for telegraphic purposes.

6. The system of signs consisting of dots and spaces, and of dots, spaces, and horizontal lines, substantially as herein set forth and illustrated, in combination with machinery for recording them, as signals for telegraphic purposes.

7. The types or their equivalent and the type-rule and port-rule, in combination with the signal-lever or its equiva-

Argument of counsel.

lent, as herein described, for the purpose of closing and breaking the circuit of galvanic or electric conductors.

SAM. F. B. MORSE.

In presence of—

GEO. WOOD,

J. READ BAILEY.

UNITED STATES PATENT OFFICE. SAMUEL F. B. MORSE,
OF NEW YORK, N. Y. IMPROVEMENT IN ELECTRO-
MAGNETIC TELEGRAPHS. SPECIFICATION FORMING PART
OF LETTERS PATENT NO. 4,453, DATED APRIL 11, 1846.

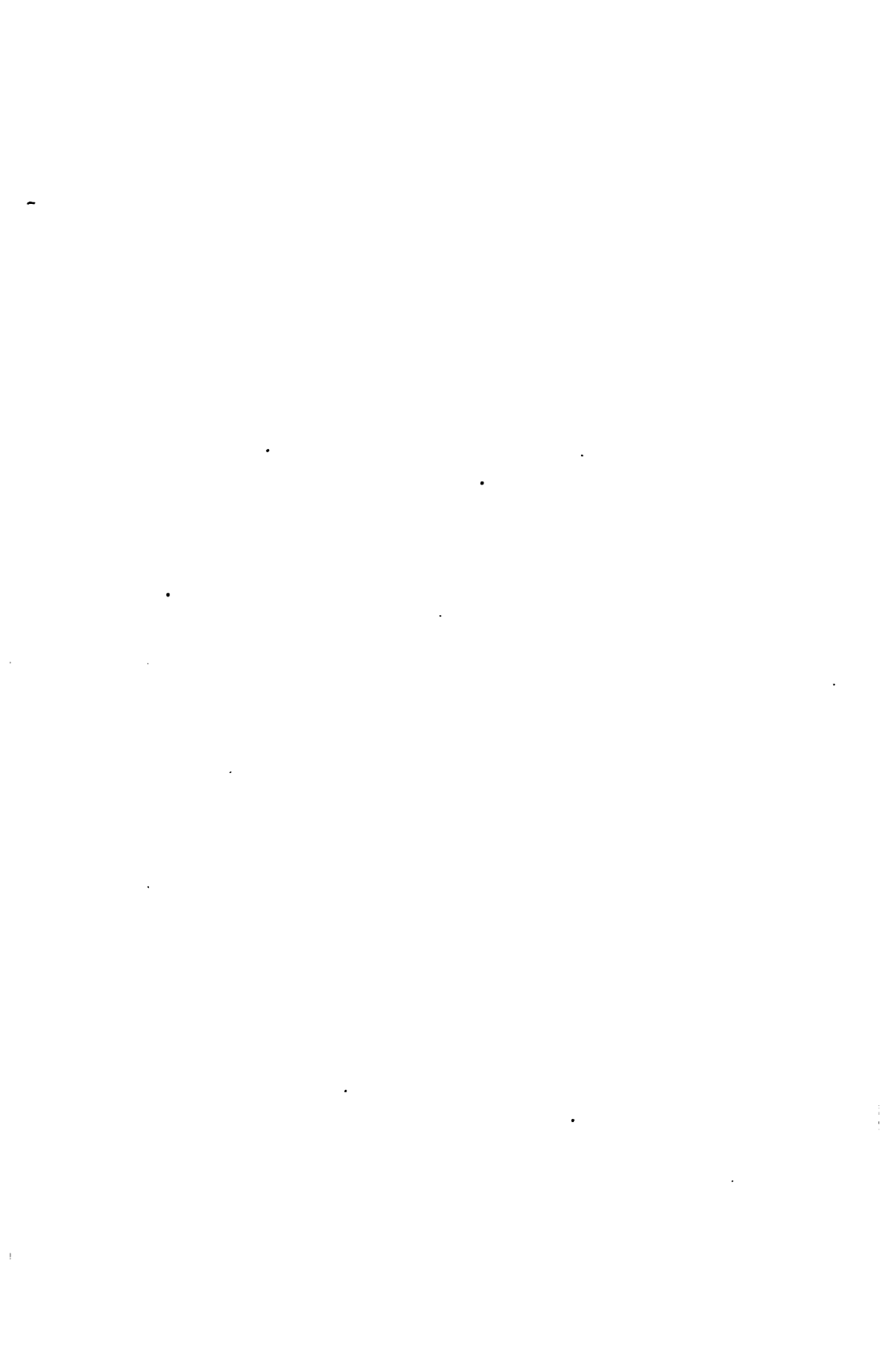
To all whom it may concern :

Be it known that I, S. F. B. MORSE, of New York, in the county of New York and State of New York, have invented a new and useful Improvement in the Electro-Magnetic Telegraph ; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal view through the machine. Fig. 2 is a top plan. Fig. 3 is a side elevation.

The construction of my apparatus is as follows : In the section Fig. 1, A represents the base, which is an oblong plank to which all of the other parts are affixed. Near one end of said base are two upright standards. (Shown in the figures and lettered *y*.) These standards are represented by harp-shaped castings, which are placed a little distance apart and support the journals of a short cylinder near their top, around which a strip of paper, 12, is wound, of any length, and from it is supplied to the machine, as hereinafter described.

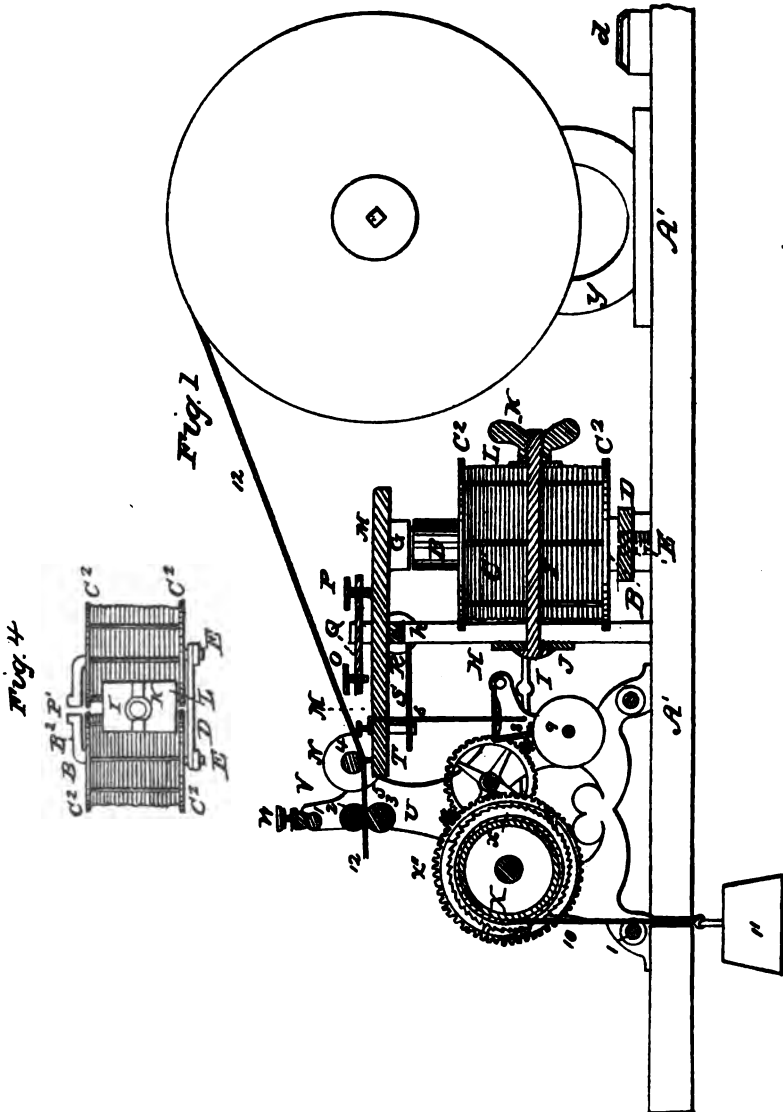
Near the centre of the base A is situated the electro-magnet of the register, which is constructed as follows : Two round bars of soft iron are each placed in a coil of insulated copper wire, C, the lower ends of said bars B' being connected by a cross-bar, D, extending from one to the other,



S. F. B. MORSE.
Telegraph.

No. 4,453.

Patented April 11, 1846.

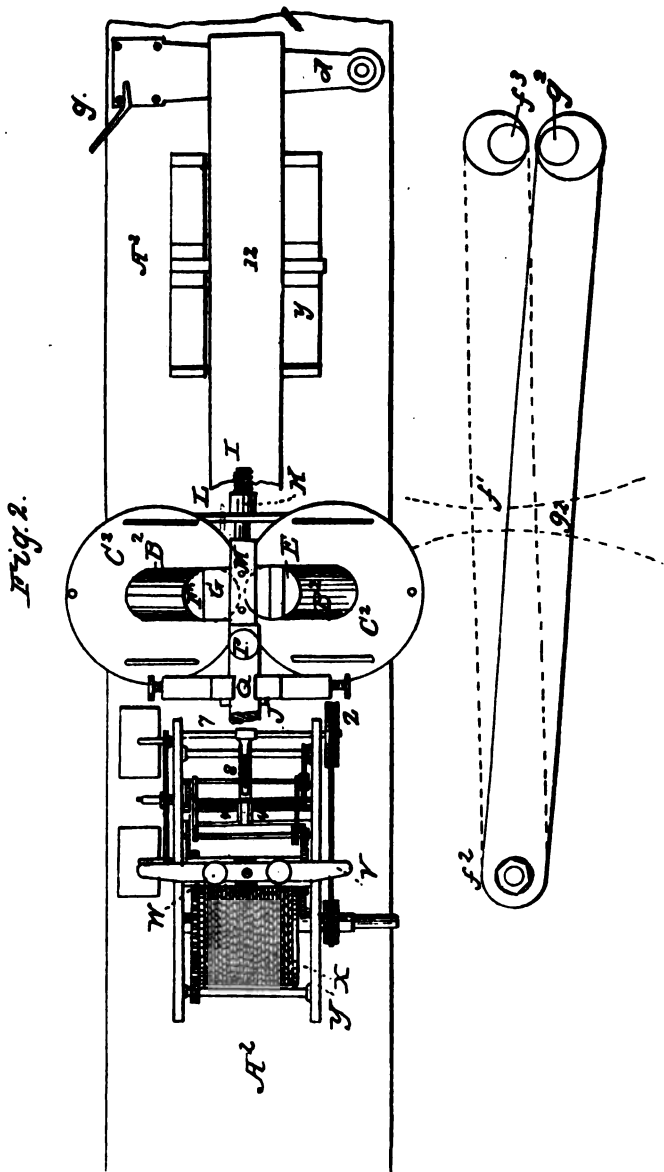


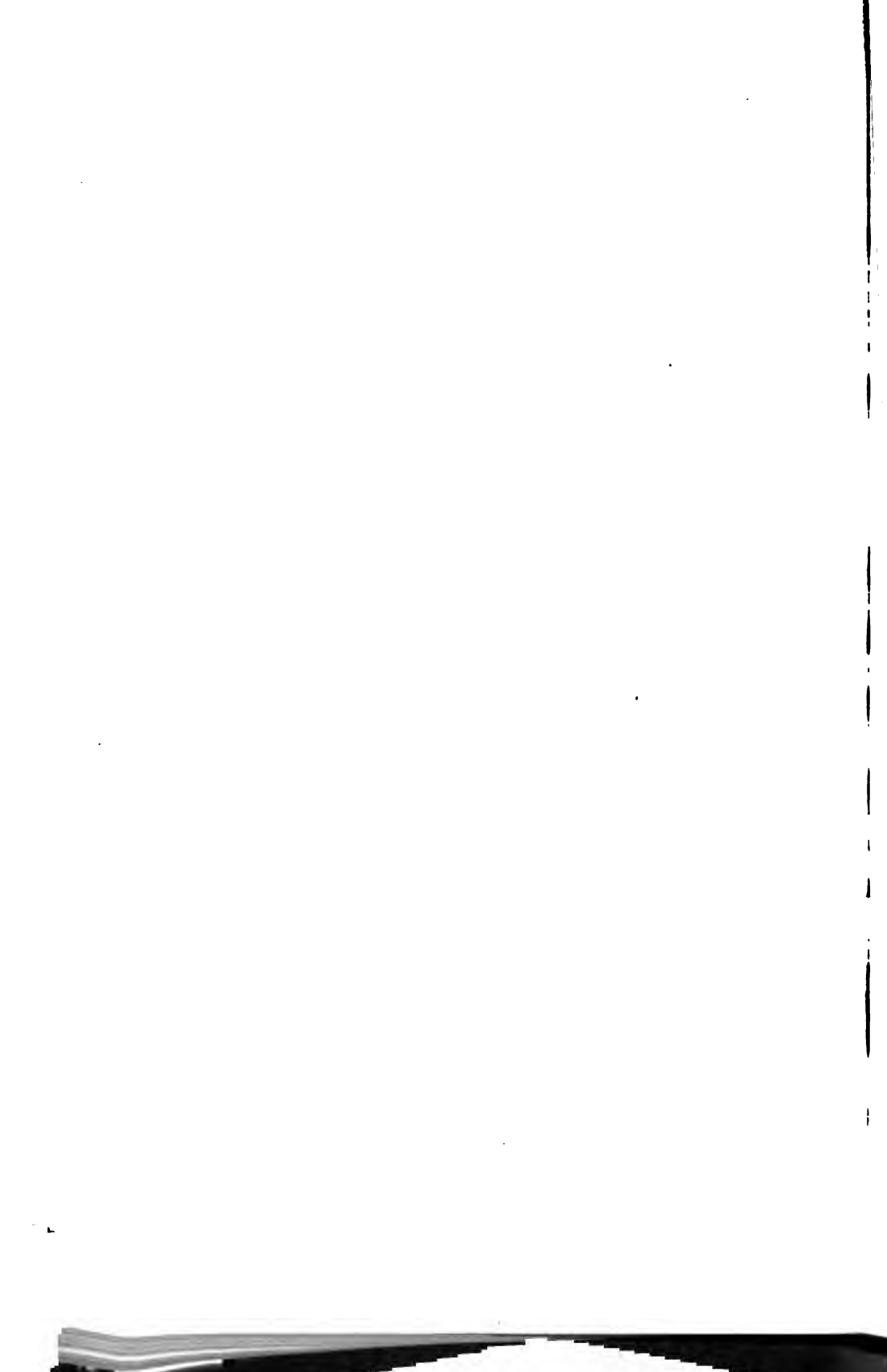
Telegraph.

3 Sheets—Sheet 2.

No. 4,453.

Patented April 11, 1846.

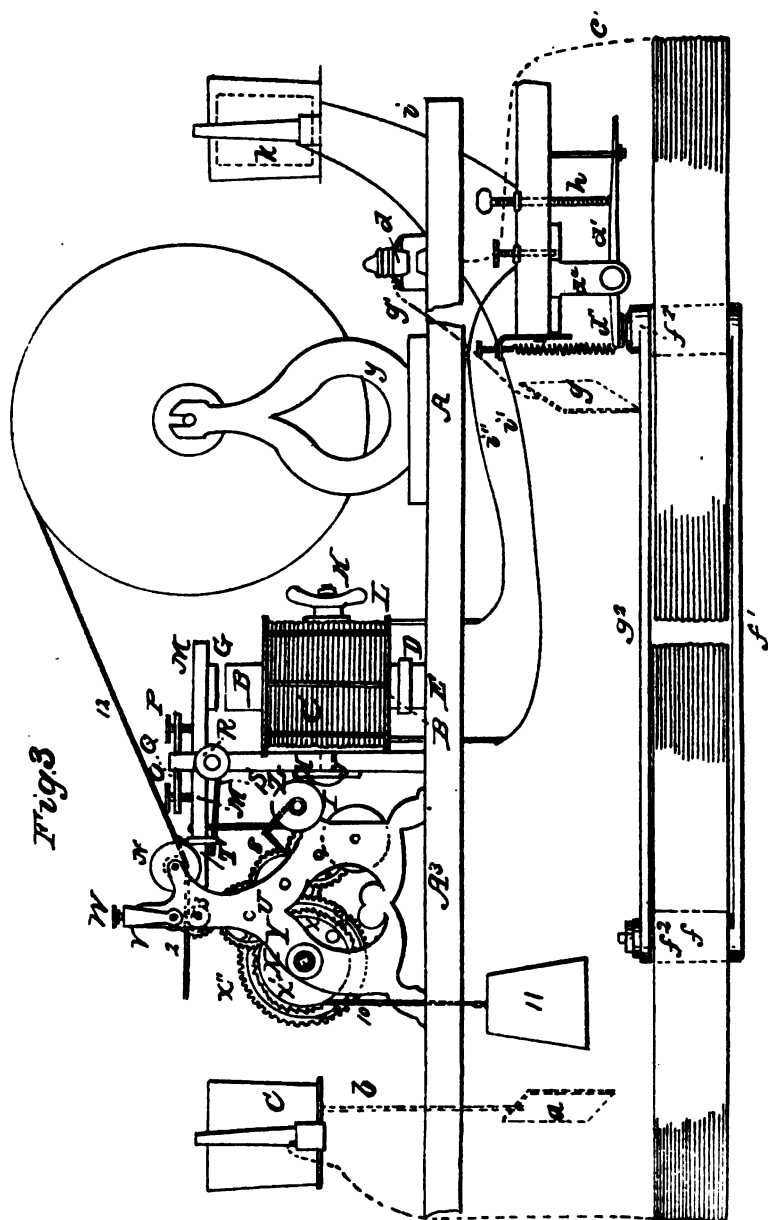




3 Sheets—Sheet 3.

No. 4,453.

Patented April 11, 1846.



Argument of counsel.

through which they pass, and to which they are secured by screws, which are screwed onto them. The upper ends of these bars above the coils curve inward toward each other, coming nearly together without touching, as shown at B', Fig. 4, and the extreme ends are turned upward, as shown at F', same figure.

Just in front of the coils C, above named, there is affixed to the base an upright standard, H, through which a bolt, I, is put horizontally, with its head against a plate, J, between it and standard H. This bolt passes through between the two coils C, and also through a cross-bar, L, that extends from one coil to the other. On its end a screw is cut, on which a nut, K, is screwed, which secures the two coils and the soft-iron bars firmly in their places. Each of the coils of wire have wooden heads or cheeks above and below, with binding-wires extending from one to the other, for the purpose of keeping the wire together.

On the top of the standard H there is a cross-bar, Q, permanently attached to said standard, and having in each end a thumb-screw, (lettered O and P,) the ends of which extend down nearly to a lever, M M, directly under said bar Q, which I denominate the "pen-lever." One arm of this lever projects over the soft bars above named, where an armature, G, of soft iron is attached to it, that extends over the surface of the ends of both bars B' of the electromagnet, as shown in the plan, Fig. 2. To the other end of the lever three, more or less, points, 5, are affixed, that project upward toward a steel roller, 4, directly under the centre thereof, as hereinafter described.

The extent of the vibration of the lever M is regulated by the thumb-screws O and P, above named, its pivot *h* being in the standard H. The screw O is for limiting the upward motion of the pen or points 5, and P their downward motion, a spring, *s*, being used to draw them down.

A suitable frame is secured to the same base A as the other parts above described, which contains the clock-work for supplying the paper from the roll. Said clock is composed of a cylinder or barrel, *x*, on which a cord, 10, is

Argument of counsel.

wound, to which a weight, 11, is suspended. On this barrel, at one end, is a ratchet-wheel, x' , and on the same shaft as the barrel there is a spur-wheel, x'' , with a spring-click, similar to a common clock. This wheel connects, by means of a multiplying-gearing, with the cylinder 3, upon which is pressed a cylinder, 2, by means of a spring, V, which passes over the top of the frame, its ends turning down and resting on the journals of cylinder 2, Figs. 2 and 3, and holds down the upper roller. The pressure of this is regulated by screws W on top. These cylinders draw the strip of paper 12 between them, after it has passed under a cylinder, 4, placed over the pens above described, in which cylinder are grooves $4'$, cut directly opposite the points.

In addition to the above-described machine, there is what I denominate a "receiving-magnet," of the following construction and use. It is represented in Figs. 2 and 3, and consists of a bar of soft iron, f'' , the two ends $f'' f''$ of which are turned up at right angles, and said ends are made larger in diameter than the lower horizontal part, f'' , which may be flat. On the upper end of one of the uprights, f'' , is bolted a horizontal bar, g'' , that extends out to a point just beside the other upright, f'' , (more clearly shown in the outline Fig. 2,) and its end turns up at the same distance from f'' as the end of f'' . The upper end of the upright f'' and bar g'' are on a level with each other, and they are chamfered off on the sides from each other, so as to have the face of the upper ends smaller than the body of the bars and adjacent to each other. Around each of the uprights $f'' f''$ there is a large flat coil of wire consisting of a wire of considerable length, say one mile, more or less, in each coil. These coils connect with a battery, c, Fig. 3, at the other station by a wire from one of the coils, and with the ground as a conductor to the other, as hereinafter described. The circuit can be broken or closed by an apparatus consisting of a straight lever or key, d , Figs. 2 and 3, to one end of which one wire, g' , Fig. 3, is connected, and a boss of metal, e, composing the anvil, is attached to the other wire, e' , forming the rest of the circuit. When the

Argument of counsel.

hammer on the lever d is brought down on the anvil it closes the circuit, by which the bar $f'f''$ of the receiving-magnet at the opposite station is magnetized. This attracts a keeper or armature, d'' , on the short arm of a straight metal lever, d' , suspended on metal standards d' above it, which causes the long arm of said lever to rise and come in contact with a brass adjusting-screw, h , placed above and near its end, to which is attached the wire leading to one pole of the local battery k . The wire $i' i''$ from the other pole of said battery is connected with the metal standards d' that support the journal of lever d' , and thus completes the circuit which has the electro-magnet B in it for writing, by which any amount of power can be obtained that is required to enable the said magnet to draw down the armature G above described, which causes the points 5 to mark on the paper 12. (See Fig. 1.)

To the arm M of the pens a break, 8, which is a common plain lever, is attached by means of a connecting-rod, 6, so as to be raised from a friction-pulley when the pen is made to mark and let off the clock-work attached thereto, which puts the paper in motion. This break 8 is attached to the shaft 7 placed a little above the friction-pulley 9 that is connected with the clock-work on which said break acts. On the same shaft 7 with the break there is a pulley, z , connected by an endless band with a smaller pulley on the shaft of the barrel on which the weight-cord is wound. This causes the break, when raised by the lever M, slowly to descend till it strikes the friction-pulley 9 and stops the clock-work, after a sufficient quantity of paper has been run off by its action to form the spaces for the longest rests between the motions of the pen-lever M, and thus keeping the break up till the writing ceases, after which it gradually descends and the machine is stopped.

The red and black lines, Fig. 3, show the relative positions of the apparatus in connection with a circuit of wire.

a is a copper plate buried in the ground, from which a wire, b , ascends to a battery, c . This I denominate the "main battery." From thence the wire extends to a re-

Argument of counsel.

ceiving-magnet, f , described in a former section, and represented at f , Figs. 1 and 3. From thence a wire, e' , is continued to the opposite station, and is there connected with the anvil e of the key d , as above described, and thence to another plate of copper, g , in the ground. Connecting this circuit by means of the key d , magnetizes the receiving-magnet and causes the lever d' to move, which closes the circuit of wire i connected with a local battery, k , and magnetizes the soft bars B of Fig. 3, acting on the pen-lever, which causes it to mark on the paper.

The economy of the galvanic power by the introduction of the receiving-magnet is obvious. When the extent of the telegraphic line is very great the resistance to the passage of the galvanic current is proportionably increased, and an enormous battery would be required to operate the pen by means of the register or local magnet, which is of small dimensions and has a comparatively short extent of wire around it; but I have discovered that by using a very long coil of wire, as in the receiving-magnet, there is a sufficiently powerful magnet produced (notwithstanding the length of the telegraphic line may be very great) by means of a small galvanic battery. The same extent of galvanic battery that would produce no available magnetism in the register-magnets charges the receiving-magnet to such an extent as to enable me to produce motion, and thus at pleasure to make and break the circuit of the small local battery, which, being on the spot and charging the register-magnet, gives me perfect control over it and the apparatus connected with it. Thus I resort to two magnets and two batteries, of such relative characters as I have described, to effect a communication through any distance desired without increasing to any considerable degree the size of the main galvanic battery, which is in itself a great source of expense.

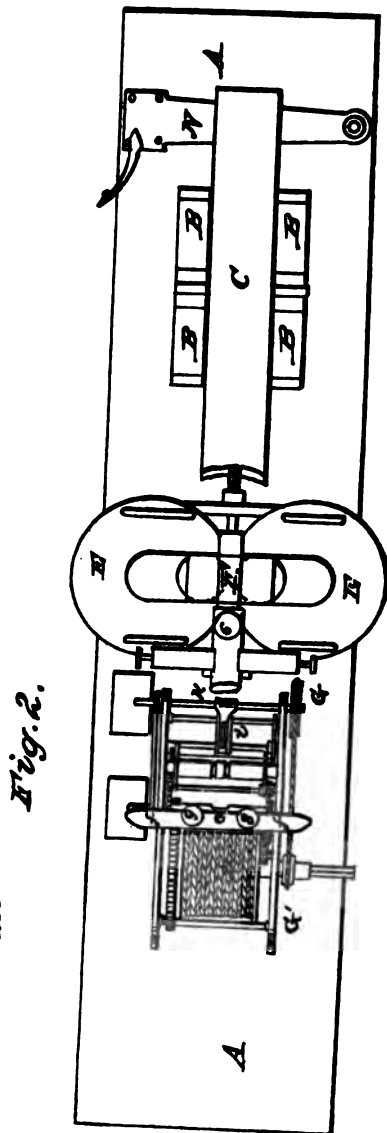
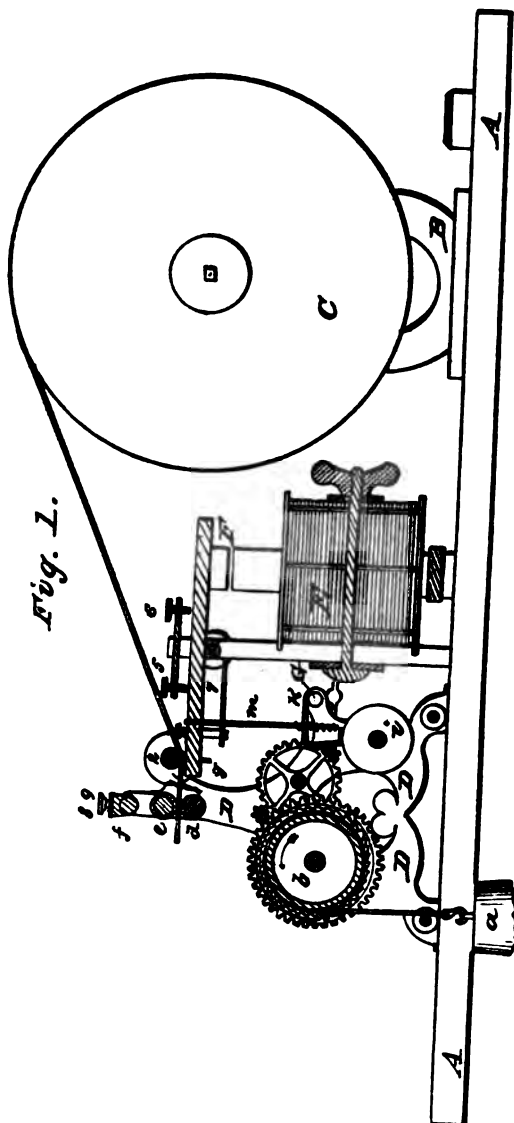
What I claim as my invention, and desire to secure by Letters Patent, is—

1. The receiving-magnet, or a magnet having a similar character, that sustains such a relation to the register-

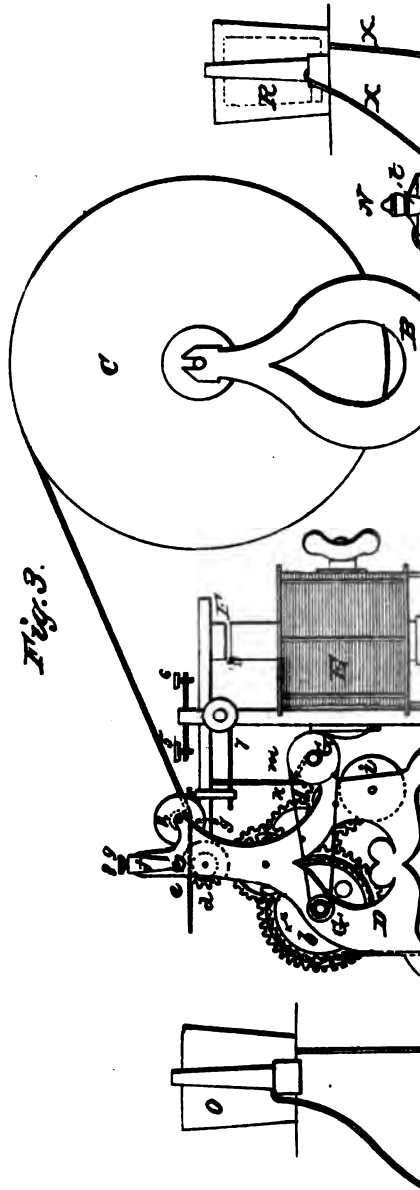
Telegraph.

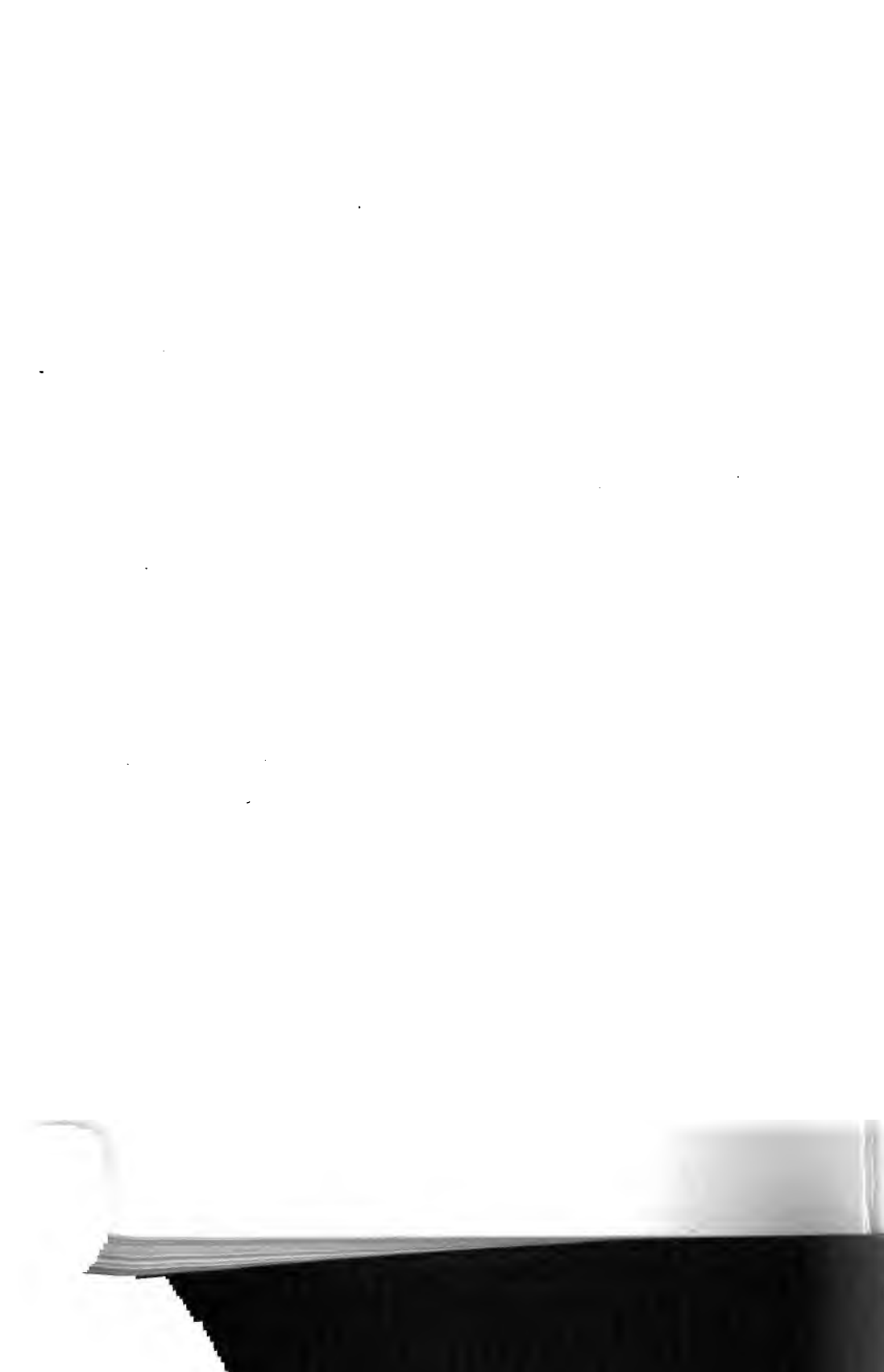
No. 118.

Reissued June 13, 1848.

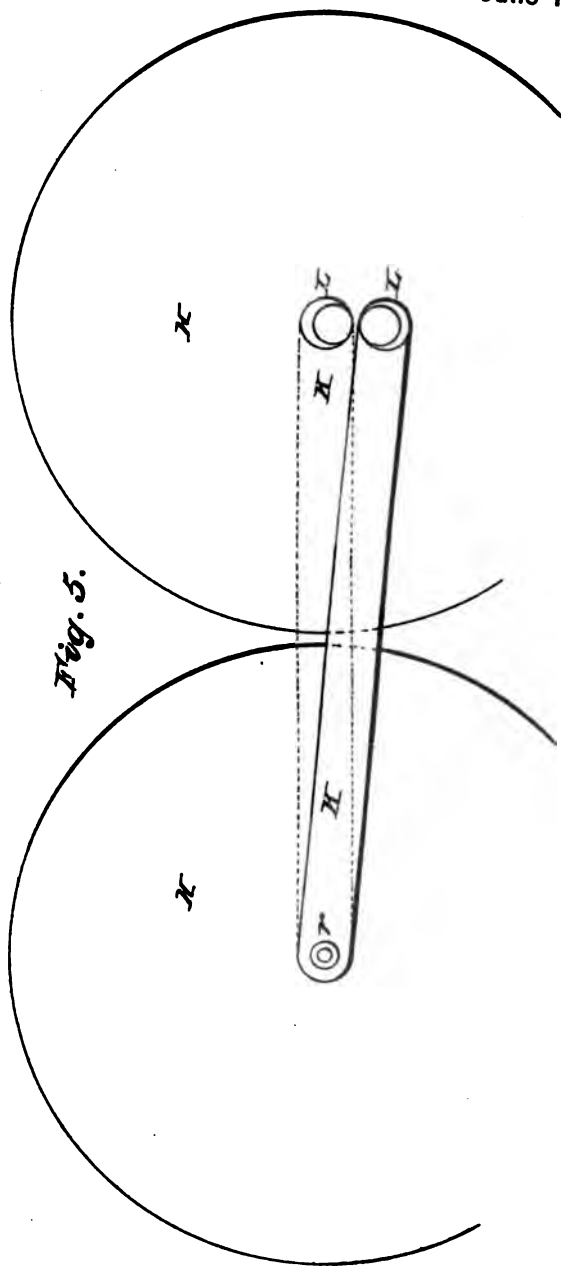
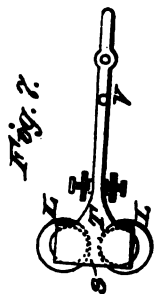
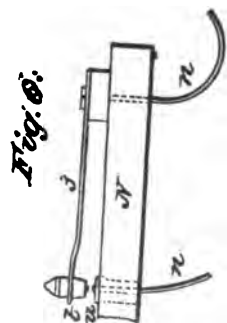
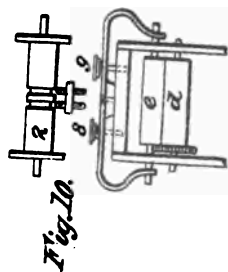


No. 118.









Telegraph.

No. 118.

Reissued June 13, 1848.

Fig. 8.

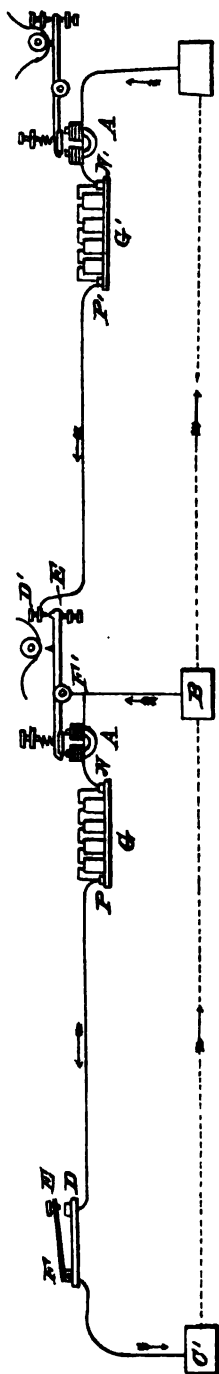
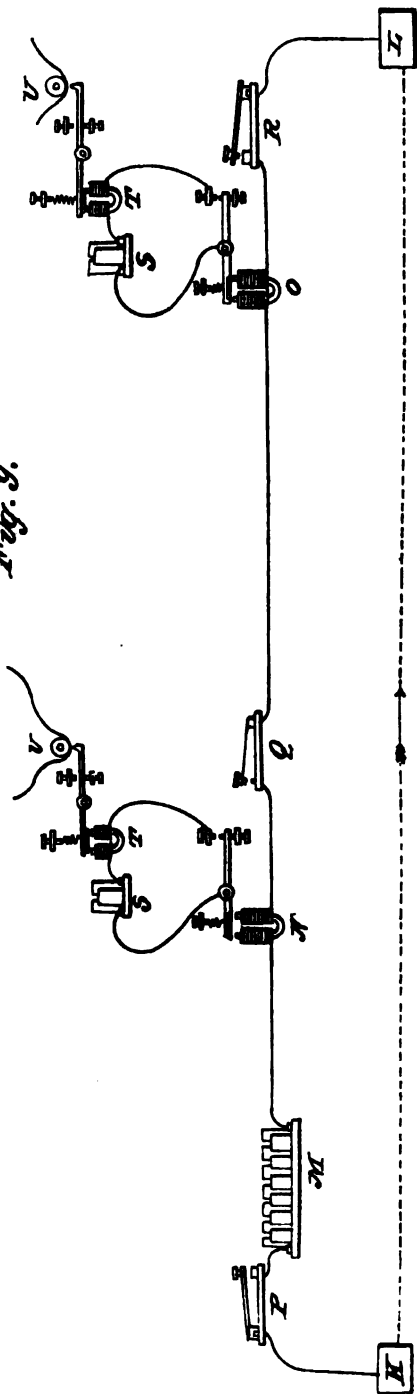


Fig. 9.





Dec., 1853.]

O'REILLY v.

Argument of c

magnet, or other magnetic contr
the length of current or telegrap
to accomplish, with the aid of a
the introduction of a local bat
for registering as could not be
the use of a much larger galvani

2. The use of a local battery a
with a battery and magnet conn
lines of conductors, for the purp

3. The combination of the ap
clock-work for setting off the p
the pen-lever M.

4. The combination of the poi
with the grooved roller N for m
described.

Witnesses :

ALFRED VAIL,

J. J. GREENOUGH.

UNITED STATES PATENT OFFI
OF POUGHKEEPSIE, NEW Y
ELECTRO-MAGNETIC TELEGRA
ING PART OF LETTERS PATEN
11, 1846 ; REISSUE No. 118, :

To all whom it may concern :

Be it known that I, SAMUEL F
keepsie, in Dutchess County, in
have invented a new and usefu
Magnetic Telegraphs ; and I do
following is a full, clear, and ex
ject, construction, and operatio
had to the accompanying drawin
same.

The original and final object

Argument of counsel.

communication of intelligence at a distance by signs or signals.

Various modes of telegraphing or making signs or signals at a distance have for ages been in use. The signs employed heretofore have had one quality in common. They are evanescent, shown or heard a moment, and leaving no trace of their having existed. The various modes of these evanescent signs have been by beacon-fires of different characters, by flags, by balls, and reports of fire-arms, by bells heard from a distant position, by movable arms from posts, &c. I do not therefore claim to be the inventor of telegraphs generally. The electric telegraph is a more recent kind of telegraph, proposed within the last century; but no practical plan was devised until about sixteen years ago. Its distinguishing feature is the employment of electricity to effect the same general result of communicating intelligence at a distance by signs or signals. The various modes of accomplishing this end by electricity have been the employment of common or machine electricity as early as 1787 to show an evanescent sign by the divergence of pith balls; the employment of common or machine electricity in 1794 to show an evanescent sign by the electric spark; the employment of voltaic electricity in 1809 to show an evanescent sign by the evolution of gas bubbles decomposed from a solution in a vessel of transparent glass; the employment of voltaic electricity in the production of temporary magnetism in 1820 to show an evanescent sign by deflecting a magnet or compass-needle. The result contemplated from all these electric telegraphs was the production of evanescent signs or signals only. I do not therefore claim to have first applied electricity to telegraphing for the purpose of showing evanescent signs or signals.

The original and final object of my telegraph is to imprint characters at any distance as signals for intelligence. Its object is to mark or impress them in a permanent manner. To attain this end I have applied electricity in two distinct ways: First, I have applied, by a novel process, the motive power of electro-magnetism, or magnetism produced by

Argument of counsel.

electricity, to operate machinery for printing signals at any distance ; second, I have applied the chemical effects of electricity to print signals at any distance.

The apparatus or machine with which I mark or imprint signs or letters for telegraphic purposes at a distance I thus describe, viz.: first, the machinery at the transmitting terminus ; second, the machinery at the receiving or recording terminus ; third, the arrangement of circuits or conductors consisting of the main circuit and local circuit, or circuits connecting the machinery of both termini.

First. The machinery at the transmitting terminus consists of the key or correspondent N. (See Sheet III, Figure 6.) The part N is of wood or some convenient non-conducting substance. 3 is a spring or lever, of metal, fastened upon N at one end and terminating at the other in a knob or hammer, *t*, faced with platinum. *u* is a metallic anvil, also faced with platinum. Parts of the electric conductor terminate at the key, the one part at the anvil *u* and the other at the hammer *t*, in such a way that the only part broken of the entire circuit is between the points *u* and *t*. The object of the key is to close and break the circuit.

Second. The machinery at the receiving terminus consists of the receiving-magnet. (See Fig. 4, Sheet II.) H H are the coils or helices of the magnet, being part of the main circuit of conductors. K K (see Figs. 4 and 5, Sheets II and III) represent the iron of the electro-magnet in a form to enable me to enlarge the coils or helices without separating to an inconvenient distance the poles L L from each other. K K represent the upper and lower portions of the magnet, which are without the coils, and one of which unites the two portions of the magnet within the coils, forming one piece with them. The other bar is united at one end to this piece by a screw at *r*, and runs divergent from the position of the other bar in such a manner as to bring the two poles L L near each other, but not in contact. This arrangement admits of coils of any desired size to form the helices of a magnet, without requiring any increase in the size of the armature, thus allowing to the armature a

Argument of counsel.

quicker vibration and a more delicate adjustment. The special object of the receiving-magnet is to close and break at a distance another circuit, called a "local circuit," in which local circuit is a magnet and battery, or their equivalents, for the production of the power necessary to mark or imprint characters.

s is the armature of the receiving-magnet, affixed to the metallic lever *T*, supported by the metal standard *P*, which is attached to a wooden frame or other non-conducting substance, *M*. *j* is a spring, so attached to the lever *T* as to withdraw the armature *s* from the poles *L L* of the magnet when the magnetic force is withdrawn, the other extremity of the spring being so attached to a thumb-screw, *q*, as to be adjusted to any desired degree of strength or delicacy. *l* is a stop (being a screw with a head) to regulate, in connection with another metallic screw, *y*, the limits of motion of the lever *T*. The screw *y* has its end *w* faced with platinum in order to form better contact with the platinum point or surface *v* on the lever *T*. On the proper adjustment of these two screws *l* and *y* depends the efficiency of the receiving-magnet. The limits of motion should be such that when the magnet is charged the point *v* should come in contact with the point *w*; but the surface of the armature should not touch the surface of the poles of the magnet; and when the magnet is not charged the armature should not be withdrawn by the spring *j* beyond the sphere of the magnet's attraction.

The register consists of a series of wheels and pinions, and its object is to regulate the movement of paper or other material upon which to imprint telegraphic characters.

A A, &c., Sheet III, Figs. 1 and 3, represent the platform, of wood or other convenient material, upon which the machinery is erected; *B B*, &c., the standards for the reel of paper; and *C* the reel of paper upon which is to be imprinted the telegraphic characters; *D*, one form of the arrangement of the wheels and pinions of the register; *d e*, rollers for drawing the paper in contact with the pen or marking-roller 2. (Seen also on Sheet III, Fig. 10.)

Argument of counsel.

Sheet II, Fig. 3: E represents the helices or coils and magnet of the register; F, the pen-lever and armature of the magnet attached. 5 6 are stops, being thumb-screws, attached to some convenient fixed part of the machinery, for limiting the motion of lever F, to which is affixed both the armature of the magnet E and the pen point or points *g*. The stop 5 arrests the movement of the armature as it moves toward and stop 6 as it recedes from (by the action of the spring 7) the poles of the magnet, according as magnetism exists or ceases. The spring 7 so operates on the lever F as to be antagonistic to the attractive power of the electro-magnet E, not so strong as successfully to resist the magnetic power when excited, but strong enough when the magnetic power ceases to bring the armature back quickly. The armature in its movements should not be allowed to touch the face of the magnet, nor should the point or points *g*, of which there may be one or more, at pleasure, be allowed to touch the bottom of the groove or grooves of the roller 2. The pen point or points, if they are screws, aid in an exact adjustment of the pen-lever.

The frame D contains the train of wheels, whose motion is caused by the weight *a*, or its equivalent. Connected with this train of wheels is the self-stopping apparatus G G', which consists of a friction-wheel or brake-wheel, *i i*, of any suitable material, as wood, cork, &c., which should be fixed upon any convenient part of the fly-wheel shaft, or the swiftest, or one of the swiftest, in the train. Another shaft, G, has at one extremity a pulley-wheel, connected by a small cord with another pulley-wheel, G', fixed upon the shaft of the barrel *b*. The diameter of the pulley-wheel G is greater than that of G'. Attached to and forming a part of the shaft of G is a small arm or brake, *k*, of metal or other suitable material, so formed as to come in contact with the friction-wheel *i i*. A light rod of wire, *m*, secured at one extremity to and dropped from the pen-lever F, has the other extremity with a screw-thread cut upon it, which rod passes freely through an opening in the brake *k*. A nut fitting the screw keeps the rod from pass-

Argument of counsel.

ing back through the opening, and at the same time serves to adjust and regulate the movement of the brake. The object of the self-stopping apparatus is to enable the operator to put in action or to arrest at pleasure the movement of the distant register.

The paper-rollers *d*, *e*, and 2, Fig. 10, Sheet III, are so connected with the train of wheels that the paper drawn from the reels by passing between *d* and *e* is made to be in contact with the grooved cylinder 2. The roller *e* is kept in contact with *d* by the forked spring in Fig. 10 bearing upon the ends of the journals, and regulated in its strength by the thumb-screws 8 and 9. The bearing or sockets for the ends of the shafts of *e* are not circular, but are slots to allow of a slight movement in a direction with and against the force of the spring, so that the spring shall act with proper power, tending to keep the cylinder *e* in contact with *d*.

The circuits of conductors.—A circuit is a continuous connection by a good conductor between and uniting the two poles of a battery or any generator of electricity. I use in my arrangement for imprinting signals two combinations of circuits in connection with the receiving-magnet or its equivalent.

The first combination consists of two or more single circuits consecutively arranged, each having a battery and receiving-magnet or their equivalents, the second circuit being dependent on the first circuit, and the third on the second, and the fourth on the third, and so on *ad infinitum*, like links of a chain. In this pendent on the entirety of each single circuit of the whole series.

The second combination consists of one main single circuit containing in it any number of receiving-magnets or their equivalents, the helices of which are successively and continuously connected. Each receiving-magnet or its equivalent closes and breaks an independent second circuit, which is no part of the main line, nor is the main line influenced in its action by the derangement of any one or all of the local or secondary circuits. Both combinations of cir-

Argument of

cuits may be insulated upon post-
tances throughout a country.

These two combinations of circuits are
8 and 9, Sheet IV.

Example 1.—The first link of the
pole P the circuit connects the main
spondent where it terminates.
and, passing through F, connects with
earth, thence through the helices of the
through the helices of the main circuit
other pole, N, of the battery.
only part of the circuit broken.
When E is pressed down so as to close
closed, and, the magnetic influence
operating on A, the lever F' is
brought down. D' and E' are
parts of the second circuit similar to
and the battery G' operates the circuit
connected with another lever, and
definitely.

Example 2, Fig. 9.—From the main
M the conductor proceeds to the main
rupted, (as in the key F E D of the
thence proceeds to the plate K of the
the earth to the plate L at the other
passes to a similar key, R, the
receiving-magnet O to an inductor
through the helices of receiving-magnet
ing the circuit at the other pole.
local circuits are without the main
the keys P, Q, and R are keys of the
there is a key upon the line at each
whole line by breaking and closing
his station. Each key operates the
the line. N and O both operate the
Q, or R is made to close and the
main circuit is closed the magnetic
the local lever or key which co

Argument of counsel.

ing the local battery S and the register-magnet T in the local circuit, causing the lever operated by T to mark the character on the paper at U.

In the Example 1 the receiving-magnet propagates the magnetic impulse from circuit to circuit on consecutive and mutually-dependent circuits. In Example 2 it is propagated from a main circuit simultaneously to independent circuits.

Connection of the other parts of the machinery with the circuits.—O, Sheet II, Fig. 3, is the main battery, from one pole of which the main conductor *n* proceeds to the plate Q' in the earth. From thence it passes in the direction of the arrow to the plate Q, thence to the key N, where it terminates at *t*. Commencing again at *u*, it proceeds to the helices of the magnet K K and back to the other pole of the battery O.

R is the local battery, from one pole of which the conductor X X X of the local circuit proceeds to the screw *y* and to the point *w*, where it terminates. Commencing at *v* on the lever T, it passes through the metal standard P to the screw *z*, from thence through the helices of the register-magnet E, and thence back to the other pole of the battery R.

Having thus described the object and construction of my invention and the connection of the different parts of the machinery with each other, I will now describe the operation of the system combined as a whole.

The register D is at rest and the weight prevented from acting and moving the clock-work by the pressure or friction of the brake *k* upon the brake-wheel *i*, the brake being kept in contact with the brake-wheel by the power of the weight itself. Now, when the key or correspondent N is pressed down so that the metallic hammer *t* shall strike the anvil *u*, this being the only part of the main circuit that is interrupted or broken, the circuit of conductors from the two poles of the main battery O are by this act connected and the electricity from the battery freely passes through the entire circuit *n n n*, imparting magnetic power to the

Argument of

helices H H of the receiving-
 S on the metallic lever T is now
 and *v w*. The only parts of
 brought together, closing the
 battery R, which instantly im
 register-magnet E to strike the
 paper. The rising of the lever
 brake *k*, by means of the rod *n*
 that now the weight *a* is permi
 The rollers *d e* commence draw
 from the paper-reel C. If the
 down is now released and the
 falls, the power being gone the
 the lower end of the brake-rod
 the opening in the brake-lever,
 down the brake, but leaves it to
 work gradually to bring it down
 brake-wheel. While closing
 therefore, for imprinting the c
 in movement, for every rising
 writing or imprinting, preven
 scending and coming in conta
 the cord which connects G with
 wheel G' from the quickness of
 when the circuit remains broke
 F having fallen, there is now n
 lever *k* in slowly descending by
 till it comes in contact with
 arrests all motion.

In this manner, by the appa
 tion of machinery above descr
 at any one station, to mark o
 any other station, however di
 of these machines by means of
 in order, I can at the same in
 key, mark or imprint the same
 ber of points throughout the A
 chinery I call "The American]

Argument of counsel.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The employment, in a main telegraphic circuit, of a device or contrivance called the "receiving-magnet," in combination with a short local independent circuit or circuits, each having a register and register-magnet, or other magnetic contrivances for registering, and sustaining such a relation to the register-magnet or other magnetic contrivances for registering, and to the length of circuit of telegraphic line, as will enable me to obtain, with the aid of a main galvanic battery and circuit and the intervention of a local battery and local circuit, such motion or power for registering as could not be obtained otherwise without the use of a much larger galvanic battery, if at all.

2. The combination of the apparatus called the "self-stopping apparatus," connected with the clock-work of the register, for setting said register in action and stopping it, with the pen-lever F, as herein described.

3. The combination of the point or points of the pen and pen-lever or its equivalent with the grooved roller or other equivalent device over which the paper or other material suitable for marking upon may be made to pass for the purpose of receiving the impression of the characters, by which means I am enabled to mark or print signs or signals upon paper or other fabric by indentation, thus dispensing with the use of coloring-matter for marking, as specified in my Letters Patent of January 15th, 1846.

SAML. F. B. MORSE.

Witnesses :

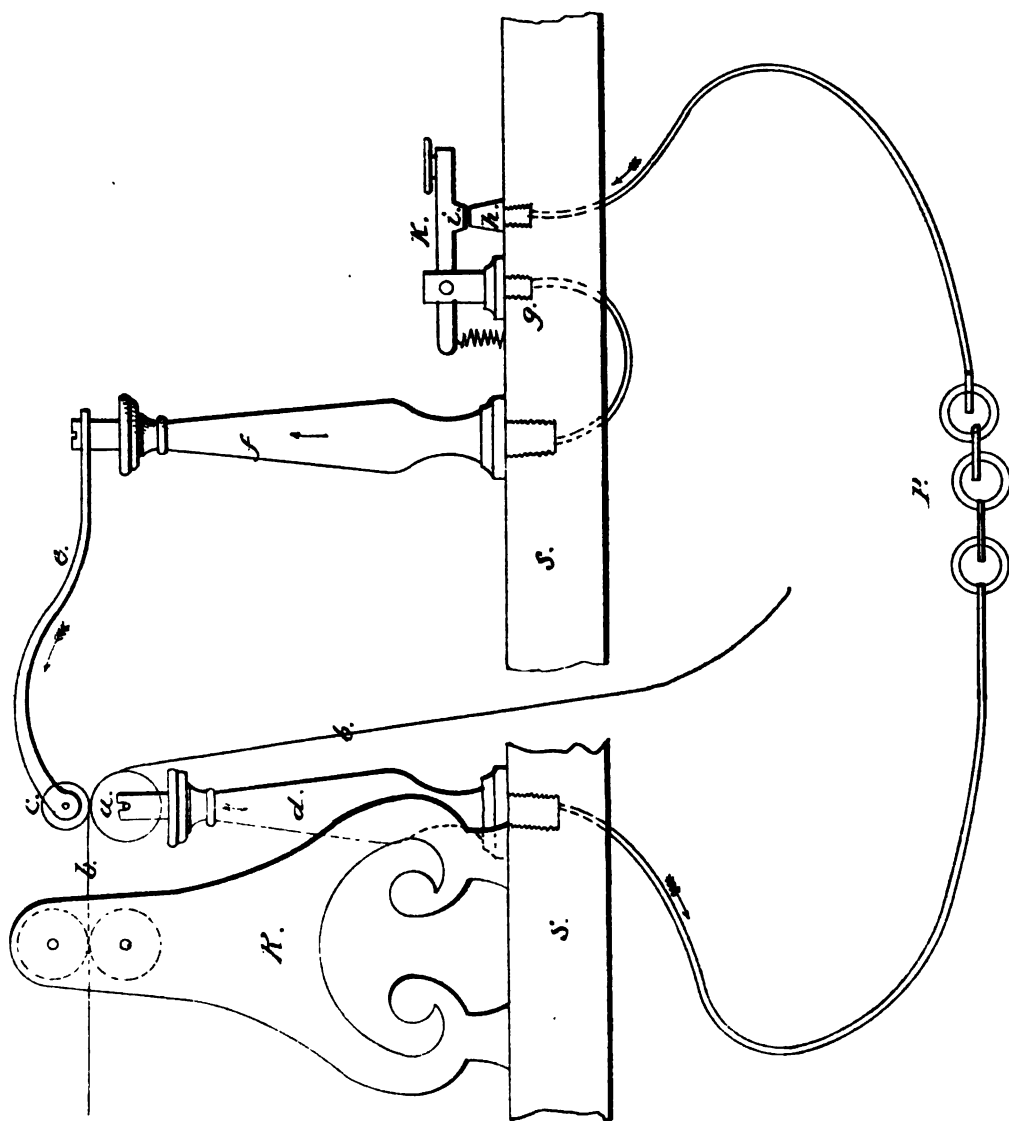
GEO. WOOD,

J. THOMAS CLARK.

S. F. B. Morse.
Telegraph.

N^o 6,420.

Patented May 1, 1849.



Argument of counsel.

UNITED STATES PATENT OFFICE. S. F. B. MORSE, OF
POUGHKEEPSIE, NEW YORK. IMPROVEMENT IN ELECTRIC
TELEGRAPHS. SPECIFICATION FORMING PART OF
LETTERS PATENT No. 6,420, DATED MAY 1, 1849.

To all whom it may concern :

Whereas among my earliest conceptions of the telegraph, in October of the year 1832, on board the packet-ship "Sully," on her voyage from France to New York, I conceived the idea of marking the telegraphic signs I had invented (being dots and spaces to signify numerals) by electrical decomposition of certain salts and chemical compounds ; and whereas the application of the proper means for producing a successful result of this thought was soon after superseded in my mind by another method, at the same time conceived, of marking the said signs, to wit, by magnetism, produced by electricity, which is the successful method now in use, and having recently secured to my original thought of applying decomposition by electricity, through a single circuit of conductors, and discovered a means of successfully applying the same, as then conceived, to the marking of the aforesaid signs for numerals and letters, and of any desired characters, I will here describe the nature of my invention, and the method by which I obtain my results.

The nature of my invention consists, first, in the application of the decomposing effects of electricity, produced from any known generator of electricity, to the marking of the signs for numerals, or letters, or words, or sentences invented and arranged by me, and secured by patent bearing date June 20, 1840, reissued January 15, 1846, and again reissued June 13, 1848, or their equivalents, through a single circuit of electrical conductors ; second, in the mode of applying this decomposition, and the machinery for that purpose ; third, in the application of the bleaching qualities of electricity to the printing of any desired characters.

Argument of counsel.

In applying the decomposing effects of electricity upon any known salts that leave a mark as the result of the said decomposition, I use—

Class A—a class of salts that produce a colored mark upon cloth, paper, thread, or other material, under the action of electricity : first, iodide of tin in solution ; second, extract of nut-galls and sulphate of iron in solution, making an ink which colors white cambric cloth of a uniform gray ; third, acetate of lead and nitrate of potash in solution ; fourth, iodide of potassium in solution. Into either of these I dip a strip of cloth or thread which is kept properly moistened. All these give a black mark upon the cloth, thread, or other material under the action of electricity.

Class B—a class of salts which color the cloth, paper, thread, or other material, and are bleached by the action of electricity : first, iodide of tin in solution ; second, iodine dissolved in alcohol. Into either of these I dip a strip of cloth, paper, thread, or other material, and, (if in solution,) second, I also dip them into a solution of sulphate of soda. The cloth or other material in these cases becomes of a purple color more or less dark. The electricity in these cases, when a metallic point or type is pressed upon or comes in contact with the moist cloth or other material, bleaches it, and leaves the point or the type impressed in white characters upon the material.

Class C—a class of salts that produce a mark upon metal through the intervening cloth or other material, and not upon the material, under the action of electricity : first, sulphate of copper in solution ; second, chloride of zinc diluted with water ; third, sulphate of iron in solution. Into either of these solutions I dip the cloth, thread, or other material, and if into the third, I afterward dip it into muriate of lime in solution. The electricity in these cases causes a dark mark upon a bright metal plate beneath the moistened material, but not on the material itself.

The mode of applying this decomposition by electricity is by the use of so much of my machinery, previously de-

Argument of

scribed in the schedule referred to, and bearing date of the reissue of the original patent employed in regulating the motion of the common paper thread, metal, or other material which machinery is therein described, to wit:

The register consists of a shaft and its object is to regulate the motion of the material upon which to imprint the characters. A A, &c., Sheet I, II, Figs. 1 and 2, show the wood or other convenient material in which the machinery is erected; B B, &c., the paper, and C the reel of paper upon which the telegraph characters are printed; D, one of the wheels and pinions of the register; E, the drawing the paper in contact with the roller 2. (Seen also on Sheet I, Fig. 3, where frame D contains the train of wheels which is actuated by the weight *a*, or its equivalent, and the rollers *d*, *e*, and 2, Fig. 10, Sheet II, show the train of wheels that the paper passes between *d* and *e* is made to revolve upon a cylinder, Fig. 2. The roller *d* is actuated by the forked spring in Fig. 11, which regulates the journals, and regulated in position by the screws 8 and 9. The bearings of the shafts of *e* are not circular, but of such shape as to give movement in a direction with the spring, so that the spring shall always tend to keep the cylinder *e* in contact with the roller 2.

Instead of a magnet, however, I have substituted a spring altogether with both the register-magnet of my former patent, and the following arrangement of the accompanying drawings and description.

In the accompanying drawings

Argument of counsel.

register of my original patent, just quoted, as is used in drawing and regulating the motion of the paper, and is similarly used for drawing and regulating the chemically-prepared material for marking by electricity.

S S is the wooden platform for mounting the machinery.

a is a metallic cylinder, or drum, or piece of metal, mounted upon a metal standard, *d*, screwed into the platform.

b is the cloth or prepared material to be marked.

c is the thin-edged wheel, the periphery of which is platinum, held by a metal spring, *e*, also mounted on a metal standard, *f*, screwed into the platform.

K is the metal key of my previously patented telegraph machinery. One form of it consists of a short lever of metal, having its fulcrum at or near one end. At the other end is a finger-knob, the better to press it down. Between the fulcrum and the knob may be a protuberance or hammer, as at *i*, above a small anvil, as at *h*, from which the hammer is separated (when not pressed down) by a spring.

P is the battery. From the standard *d* a conductor proceeds to one pole of the battery. From the standard *f* a conductor proceeds, connecting with the back of the key at *g*, which is screwed into the platform.

h is the metallic anvil, also screwed into the platform, and insulated from the rest of the key.

i is the hammer, attached to the upper part of the key.

From the anvil proceeds a conductor to the other pole of the battery.

Operation: While the hammer *i* is separated from the anvil *h* no current can proceed from the battery; but the moment *i* and *h* are in contact the current of electricity takes the direction of the arrows and passes through the chemically-prepared material at *a*, decomposing the salt with which it is prepared, and making a mark. Thus the characters of my conventional alphabet, and other characters, are at pleasure made upon the prepared material.

I consider the discoloring process better than the bleaching process, and for the discoloring process I consider the

Dec., 1853.]

O'REILLY

Opinion of

iodide of potassium in solution
I have mentioned for the preparation of
other material.

I wish it to be understood that
the use of the substances I have
comprehend the use of any known
to be easily decomposed by the

What I claim as of my own
and desire to secure by Letters

1. The use of a single chemical
marking of my telegraphic
numerals, letters, words, or
composing, coloring, or bleaching
upon any known salts the
of the said decomposition, and
other convenient and known

2. The combination of machines
described, by which any two
conducting substance, broken
vanic circuit, having the chemical
contact with and between the
purpose of marking my telegraphic
in Letters Patent dated
first reissue 15th January, 1848,
June, 1848.

Witnesses :

EDMD. CLASBACK,

EDWD. GORDON.

Mr. Chief Justice TANEY
court.

In proceeding to pronounce
court is sensible, not only of
difficulties in some of the questions
decision. The case was argued
continued over by the court, for

more deliberate examination. And since the continuance, we have received from the counsel on both sides printed arguments, in which all of the questions raised on the trial have been fully and elaborately discussed.

The appellants take three grounds of defence. In the first place, they deny that Professor Morse was the first and original inventor of the electro-magnetic telegraph described in his two reissued patents of 1848. Secondly, they insist, that if he was the original inventor, the patents under which he claims have not been issued conformably to the acts of Congress, and do not confer on him the right to the exclusive use. And thirdly, if these two propositions are decided against them, they insist that the telegraph of O'Reilly is substantially different from that of Professor Morse, and the use of it, therefore, no infringement of his rights.

In determining these questions, we shall, in the first instance, confine our attention to the patent which Professor Morse obtained in 1840, and which was reissued in 1848. The main dispute between the parties is upon the validity of this patent; and the decision upon it will dispose of the chief points in controversy in the other.

In relation to the first point, (the originality of the invention,) many witnesses have been examined on both sides.

It is obvious that, for some years before Professor Morse made his invention, scientific men in different parts of Europe were earnestly engaged in the same pursuit. Electro-magnetism itself was a recent discovery, and opened to them a new and unexplored field for their labors, and minds of a high order were engaged in developing its power and the purposes to which it might be applied.

Professor Henry, of the Smithsonian Institute, states, in his testimony, that prior to the winter of 1819-'20, an electro-magnetic telegraph—that is to say, a telegraph operating by the combined influence of electricity and magnetism—was not possible; that the scientific principles on which it is founded were until then unknown, and that the first fact of electro-magnetism was discovered by Oersted,

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of Copenhagen, in that winter, and the account everywhere received.

He also gives an account of the frequently made from time to time in different places, developing its progress among them his own. He commenced in 1828, and pursued them with arduous time until the telegraph of Professor Brandt and in actual operation. And if no one has contributed more to electro-magnetism, and to lay the invention of which we are speaking himself.

It is unnecessary, however, to enumerate the series enumerated by him, either in the discovery of the galvanic current. But it appears from his testimony that the discovery made by Oersted, it is a science that this newly-discovered galvanic current can communicate intelligence to distant places. In the year 1823, Ampere, of Paris, and other cultivators of physical science, presented to the Academy a plan for that purpose which has never been reduced to practice. And in 1825, Barlow, of the Royal Military Academy, in 1825, that the galvanic current increases in power as the distance increases. All attempts to construct an electric telegraph. Subsequent discoveries, however, in the year 1832, when Professor Morse devoted himself to the subject, they were made among men of science everywhere, and sooner or later would, be accomplished.

The great difficulty in their application of the galvanic current, however strong, gradually weaker as it advanced, was not strong enough to produce a mechanical effect at the distance had been traversed. But the discoveries which were made from 1820

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the belief that an electro-magnetic telegraph was practicable, many eminent and scientific men, in Europe as well as in this country, became deeply engaged in endeavoring to surmount what appeared to be the chief obstacle to its success. And in this state of things it ought not to be a matter of surprise that four different magnetic telegraphs, purporting to have overcome the difficulty, should be invented and made public so nearly at the same time that each has claimed a priority, and that a close and careful scrutiny of the facts in each case is necessary to decide between them. The inventions were so nearly simultaneous that neither inventor can be justly accused of having derived any aid from the discoveries of the other.

One of these inventors, Doctor Steinheil, of Munich, in Germany, communicated his discovery to the Academy of Science, in Paris, on the 19th of July, 1838, and states in his communication that it had been in operation more than a year.

Another of the European inventors, Professor Wheatstone, of London, in the month of April, 1837, explained to Professors Henry and Bache, who were then in London, his plan of an electro-magnetic telegraph, and exhibited to them his method of bringing into action a second galvanic circuit, in order to provide a remedy for the diminution of force in a long circuit; but it appears, by the testimony of Professor Gale, that the patent to Wheatstone and Cooke was not sealed until January 21, 1840, and their specification was not filed until the 21st of July, in the same year; and there is no evidence that any description of it was published before 1839.

The remaining European patent is that of Edward Davy. His patent, it appears, was sealed on the 4th of July, 1838, but his specification was not filed until January 4, 1839; and when these two English patents are brought into competition with that of Morse, they must take date from the time of filing their respective specifications. For it must be borne in mind that, as the law then stood in England, the inventor was allowed six months to file the description

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of his invention after his patent country, the filing of the specific the application for patents.

The defendants contend that these European telegraphs were before the discovery claimed by process and method by which he conceived is substantially the same, and its capacity for impressing upon described in the alphabet he invented.

Waiving for the present any resemblance or similitude of these inventions that the first branch of the object and that Morse was the first and telegraph described in his specification three European inventions relied

The evidence is full and clear from a visit to Europe, in 1837, upon this subject during the voyage and means were so far developed in mind, that he was confident of the proof that he pursued these investigations with ardor and industry, interrupted by no embarrassments; and we think from the testimony of Professor Gale that in the spring of 1837, Morse had invented two or more electric or galvanic batteries for the purpose of increasing the force of electro-magnetism in long distances, not disclosed to the witness until after the fact, there is reasonable ground for believing that he completed his invention that the principles, powers, and machinery were known, and that the delay in bringing it into use was of means; for it required the high skill to execute and adjust the necessary to put the telegraph into operation, and error or defect would have been

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Wheatstone and Cooke's was not filed until July 21, 1840, and his information is derived from the London Journal of Arts and Sciences. But it appears, by the testimony of Edward F. Barnes, that this telegraph was in actual operation in 1839. And in the case of the Electric Telegraph Company v. Brett & Little, 10 Common Pleas Reports, by Scott, his specification is said to have been filed December 12, 1837. But if the last-mentioned date is taken as the true one, it would not make his invention prior to that of Morse. And even if it would, yet this case must be decided by the testimony in the record, and we cannot go out of it and take into consideration a fact stated in a book of reports. Moreover, we have noticed this case merely because it has been pressed into the argument. The appellants do not mention it in their answer, nor put their defence on it. And if the evidence of its priority was conclusive, it would not avail them in this suit; for they cannot be allowed to surprise the patentee by evidence of a prior invention of which they gave him no notice.

But if the priority of Morse's invention was more doubtful, and it was conceded that in fact some one of the European inventors had preceded him a few months or a few weeks, it would not invalidate his patent. The act of Congress provides that when the patentee believes himself to be the first inventor, a previous discovery in a foreign country shall not render his patent void, unless such discovery, or some substantial part of it, had been before patented or described in a printed publication.

Now, we suppose no one will doubt that Morse believed himself to be the original inventor, when he applied for his patent, in April, 1838. Steinheil's discovery does not appear to have been ever patented, nor to have been described in any printed publication until July of that year. And neither of the English inventions is shown by the testimony to have been patented until after Morse's application for a patent, nor to have been so described in any previous publication as to embrace any substantial part of his invention. And if his application for a patent was made under such

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circumstances, the patent is good, even if, in point of fact, he was not the first inventor.

In this view of the subject, it is unnecessary to compare the telegraph of Morse with these European inventions, to ascertain whether they are substantially the same or not. If they were the same in every particular, it would not impair his rights. But it is impossible to examine them, and look at the process and the machinery and results of each, so far as the facts are before us, without perceiving at once the substantial and essential difference between them and the decided superiority of the one invented by Professor Morse.

Neither can the inquiries he made nor the information or advice he received from men of science in the course of his researches impair his right to the character of an inventor. No invention can possibly be made, consisting of a combination of different elements of power, without a thorough knowledge of the properties of each of them, and the mode in which they operate on each other. And it can make no difference, in this respect, whether he derives his information from books or from conversation with men skilled in the science. If it were otherwise, no patent in which a combination of different elements is used could ever be obtained; for no man ever made such an invention, without having first obtained this information, unless it was discovered by some fortunate accident. And it is evident that such an invention as the electro-magnetic telegraph could never have been brought into action without it; for a very high degree of scientific knowledge and the nicest skill in the mechanic arts are combined in it, and were both necessary to bring it into successful operation. And the fact that Morse sought and obtained the necessary information and counsel from the best sources, and acted upon it, neither impairs his rights as an inventor nor detracts from his merits.

Regarding Professor Morse as the first and original inventor of the telegraph, we come to the objections which have been made to the validity of his patent.

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We do not think it necessary to dwell upon the objections taken to the proceedings upon which the first patent was issued, or to the additional specifications of the reissued patent of 1848. In relation to the first, if there was any alteration at the suggestion of the Commissioner, it appears to have been a matter of form, rather than of substance; and, as regards the second, there is nothing in the proof or on the face of the reissued patent to show that the invention therein described is not the same with the one intended to be secured by the original patent. It was reissued by the proper lawful authority, and it was the duty of the Commissioner of Patents to see that it did not cover more than the original invention. It must be presumed, therefore, that it does not, until the contrary appears. Variations from the description given in the former specification do not necessarily imply that it is for a different discovery. The right to surrender the old patent, and receive another in its place, was given for the purpose of enabling the patentee to give a more perfect description of his invention, when any mistake or oversight was committed in his first. It necessarily, therefore, varies from it; and we see nothing in the reissued patent that may not, without proof to the contrary, be regarded as a more careful description than the former one, explaining more fully the nice and delicate manner in which the different elements of power are arranged and combined together, and act upon one another, in order to produce the effect described in the specification. Nor is it void because it does not bear the same date with his French patent. It is not necessary to inquire whether the application of Professor Morse to the Patent Office, in 1838, before he went to France, does or does not exempt his patent from the operation of the act of Congress upon the subject: for, if it should be decided that it does not exempt it, the only effect of that decision would be to limit the monopoly to fourteen years from the date of the foreign patent. And in either case the patent was in full force at the time the injunction was granted by the Circuit Court, and when the present appeal stood regularly for hearing in this court.

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And this brings us to the exceptions taken to the specification and claims of the patentee in the reissued patent of 1848.

We perceive no well-founded objection to the description which is given of the whole invention and its separate parts, nor to his right to a patent for the first seven inventions set forth in the specification of his claims. The difficulty arises on the eighth.

It is in the following words :

" Eighth. I do not propose to limit myself to the specific machinery, or parts of machinery, described in the foregoing specification and claims ; the essence of my invention being the use of the motive-power of the electric or galvanic current, which I call electro-magnetism, however developed, for marking or printing intelligible characters, signs, or letters, at any distances, being a new application of that power, of which I claim to be the first inventor or discoverer."

It is impossible to misunderstand the extent of this claim. He claims the exclusive right to every improvement where the motive-power is the electric or galvanic current, and the result is the marking or printing intelligible characters, signs, or letters, at a distance.

If this claim can be maintained, it matters not by what process or machinery the result is accomplished. For aught that we now know, some future inventor, in the onward march of science, may discover a mode of writing or printing at a distance by means of the electric or galvanic current, without using any part of the process or combination set forth in the plaintiff's specification. His invention may be less complicated—less liable to get out of order—less expensive in construction, and in its operation. But yet, if it is covered by this patent, the inventor could not use it, nor the public have the benefit of it, without the permission of this patentee.

Nor is this all ; while he shuts the door against inventions of other persons, the patentee would be able to avail himself of new discoveries in the properties and powers of

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electro-magnetism which scientific men have discovered. For he says he does not confine his invention to the use of parts of machinery, which he claims for himself a monopoly in its use, but to the purpose of printing at a distance. This physical science may enable him to discover new agents and new elements, and to apply them in a manner superior to the present, altogether different from it. And if he is to have the use by his present patent, he is to have the discovery and development of it. There is no description of the new machine upon the records of the Patent Office. When it expires, the public must apply to him for it. In fine, he claims an exclusive right in a process which he has not described, and therefore could not be proved, and therefore could not be enforced by his patent. The court is of opinion that the patent is too broad, and not warranted by law.

No one, we suppose, will now deny that no man has taken out a patent for propelling vessels by steam, describing the machinery to be used, and claimed under it the exclusive right to the motive-power of steam, however applied to propelling vessels. It can hardly be said that such a patent he could have proved. He could have proved machinery which scientific men have improved, though the motive-power is steam. He could not prove the propulsion of vessels. Neither could he have proved that steam might, by a proper application, be used as a motive-power. He could not claim the right to the exclusive use of the motive-power for the purpose of propelling vessels.

Again, the use of steam as a motive-power in presses is comparatively a modern invention. The inventor of a machine or process, who obtains a patent, giving him the exclusive right to the motive-power, however developed,

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ing or printing intelligible characters? Could he have prevented the use of any other press, subsequently invented, where steam was used? Yet, so far as patentable rights are concerned, both improvements must stand on the same principles. Both use a known motive-power to print intelligible marks or letters; and it can make no difference, in their legal rights under the Patent Laws, whether the printing is done near at hand or at a distance. Both depend for success not merely upon the motive-power, but upon the machinery with which it is combined. And it has never, we believe, been supposed by any one that the first inventor of a steam printing-press was entitled to the exclusive use of steam as a motive-power, however developed, for marking or printing intelligible characters.

Indeed, the acts of the patentee himself are inconsistent with the claim made in his behalf; for in 1846 he took out a patent for his new improvement of local circuits, by means of which intelligence could be printed at intermediate places along the main line of the telegraph; and he obtained a reissued patent for this invention in 1848. Yet in this new invention the electric or galvanic current was the motive-power, and writing at a distance the effect. The power was undoubtedly developed by new machinery and new combinations. But if his eighth claim could be sustained, this improvement would be embraced by his first patent. And if it was so embraced, his patent for the local circuits would be illegal and void; for he could not take out a subsequent patent for a portion of his first invention, and thereby extend his monopoly beyond the period limited by law.

Many cases have been referred to in the argument which have been decided, upon this subject, in the English and American courts. We shall speak of those only which seem to be considered as leading ones. And those most relied on and pressed upon the court in behalf of the patentee are the cases which arose in England upon Neilson's patent for the introduction of heated air between the blowing apparatus and the furnace, in the manufacture of iron.

The leading case upon this *v. Harford et al.* [8 M. & W. Exchequer. It was elabora have been carefully consider was this :

Neilson, in his specification one for the improved application of fires, forges, and furnaces, was required; and it was to be a current of air produced by a vessel to be passed from it into an aperture sufficiently strong to endure from that vessel or receptacle an aperture into the fire, the air heated to a considerable temperature applied. He then described the manner in which the receptacle was heated, and the air conducted from that the form of the receptacle, the manner of applying heat to the vessel, and the manner of the invention for the infringement of the same among other defences, insisted on the air, and throwing it into the void sufficiently described in the specification on that account; and, a hot air into the furnace, increasing the intensity of the fire, and that a principle was

Upon the first of these de-
man of ordinary skill and k-
ing at the specification alone
paratus as would be product
cient to make it worth while
in all cases of forges, cupolas
is used.

And upon the second gro
who delivered the opinion of

"It is very difficult to dis

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tion of a patent for a principle, and this, at first, created in the minds of the court much difficulty ; but, after full consideration, we think that the plaintiff does not merely claim a principle, but a machine embodying a principle, and a very valuable one. We think the case must be considered as if the principle being well known, the plaintiff had first invented a mode of applying it by a mechanical apparatus to furnaces ; and his invention then consists in this : by interposing a receptacle for heated air between the blowing apparatus and the furnace. In this receptacle he directs the air to be heated by the application of heat externally to the receptacle ; and thus he accomplishes the object of applying the blast, which was before cold air, in a heated state to the furnace."

We see nothing in this opinion differing in any degree from the familiar principles of law applicable to patent cases. Neilson claimed no particular mode of constructing the receptacle or of heating it. He pointed out the manner in which it might be done ; but admitted that it might also be done in a variety of ways, and at a higher or lower temperature, and that all of them would produce the effect in a greater or less degree, provided the air was heated by passing through a heated receptacle. And hence, it seems that the court at first doubted whether it was a patent for anything more than the discovery that hot air would promote the ignition of fuel better than cold. And if this had been the construction, the court, it appears, would have held his patent to be void, because the discovery of a principle in natural philosophy or physical science is not patentable.

But, after much consideration, it was finally decided that this principle must be regarded as well known, and that the plaintiff had invented a mechanical mode of applying it to furnaces ; and that his invention consisted in interposing a heated receptacle between the blower and the furnace, and by this means heating the air after it left the blower, and before it was thrown into the fire. Whoever, therefore, used this method of throwing hot air into the furnace, used the process he had invented, and thereby infringed

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his patent, although the for mechanical arrangements for from those described by the was adopted for the recepta arrangements were made for produced in a greater or less was placed between the blow current of air passed through

Undoubtedly, the principle ignition of fuel better than machine ; but the patent was principle was embodied in it. entitled to a patent if he had the mechanical arrangements in the furnace, while a cold But his patent was supported mechanical apparatus, by which instead of cold, could be thrown was protected by his patent. receptacle, in any form, was t

We do not perceive how the can derive any countenance Court of Exchequer had said the discovery that hot air was than cold, and that he had a that purpose, there might, perhaps to rely upon it. But the correctness right to such a patent ; and construed and supported by the that of the patentee before us

For Neilson discovered the receptacle between the blower and ing the current of air through was increased. And this effect ever might be the form of the contrivances for heating it, or through it, and into the furnace

But Professor Morse has no

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or galvanic current will always print at a distance, no matter what may be the form of the machinery or mechanical contrivances through which it passes. You may use electro-magnetism as a motive-power, and yet not produce the described effect, that is, print at a distance intelligible marks or signs. To produce that effect, it must be combined with, and passed through, and operate upon certain complicated and delicate machinery, adjusted and arranged upon philosophical principles, and prepared by the highest mechanical skill. And it is the high praise of Professor Morse that he has been able, by a new combination of known powers, of which electro-magnetism is one, to discover a method by which intelligible marks or signs may be printed at a distance. And for the method or process thus discovered he is entitled to a patent. But he has not discovered that the electro-magnetic current, used as motive-power, in any other method, and with any other combination, will do as well.

We have commented on the case in the Court of Exchequer more fully, because it has attracted much attention in the courts of this country, as well as in the English courts, and has been differently understood. And perhaps a mistake in construction of that decision has led to the broad claim in the patent now under consideration.

We do not deem it necessary to remark upon the other decisions, in relation to Neilson's patent, nor upon the other cases referred to, which stand upon similar principles. The observations we have made on the case in the Court of Exchequer will equally apply to all of them.

We proceed to the American decisions; and the principles herein stated were fully recognized by this court in the case of *Le Roy et al. v. Tatham et al.*, 14 Howard, 156 (p. 313, *ante*), decided at the last term.

It appeared that, in that case, the patentee had discovered that lead recently set would, under heat and pressure, in a close vessel, reunite perfectly after a separation of its parts, so as to make wrought instead of cast pipe. And the court held that he was not entitled to a patent for this

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newly-discovered principle or quality in lead, and that such a discovery was not patentable ; but that he was entitled to a patent for the new process or method in the art of making lead pipe which this discovery enabled him to invent and employ, and was bound to describe such process or method fully in his specification.

Many cases have also been referred to, which were decided in the Circuit Courts. It will be found, we think, upon careful examination, that all of them, previous to the decision on Neilson's patent, maintain the principles on which this decision is made. Since that case was reported, it is admitted that decisions have been made which would seem to extend patentable rights beyond the limits here marked out. As we have already said, we see nothing in that opinion which would sanction the introduction of any new principle in the law of patents. But if it were otherwise, it would not justify this court in departing from what we consider as established principles in the American courts. And to show what was heretofore the doctrine upon this subject, we refer to the annexed cases. We do not stop to comment on them, because such an examination would extend this opinion beyond all reasonable bounds. *Wyeth v. Stone*, 1 Story, 270, 285 ; *Blanchard v. Sprague*, 3 Sumn. 540. The first-mentioned case is directly in point.

Indeed, independently of judicial authority, we do not think that the language used in the act of Congress can justly be expounded otherwise.

The fifth section of the act of 1836 declares that a patent shall convey to the inventor, for a term not exceeding fourteen years, the exclusive right of making, using, and vending to others to be used his invention or discovery ; referring to the specification for the particulars thereof.

The sixth section directs who shall be entitled to a patent, and the terms and conditions on which it may be obtained. It provides that any person shall be entitled to a patent who has discovered or invented a new and useful art, machine, manufacture, or composition of matter ; or a new and useful improvement on any previous discovery in either

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of them. But before he receives the patent, he shall deliver a written description of his invention or discovery, "and of the manner and process of making, constructing, using, and compounding the same," in such exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same.

This court has decided that the specification required by this law is a part of the patent, and that the patent issues for the invention described in the specification.

Now, whether the telegraph is regarded as an art or machine, the manner and process of making or using it must be set forth in exact terms. The act of Congress makes no difference, in this respect, between an art and a machine. An improvement in the art of making bar-iron or spinning cotton must be so described; and so must the art of printing by the motive-power of steam. And in all of these cases, it has always been held that the patent embraces nothing more than the improvement described and claimed as new, and that any one who afterward discovered a method of accomplishing the same object, substantially and essentially differing from the one described, had a right to use it. Can there be any good reason why the art of printing at a distance, by means of the motive-power of the electric or galvanic current, should stand on different principles? Is there any reason why the inventor's patent should cover broader ground? It would be difficult to discover anything in the act of Congress which would justify this distinction. The specification of this patentee describes his invention or discovery, and the manner and process of constructing and using it; and his patent, like inventions in the other arts above mentioned, covers nothing more.

The provisions of the acts of Congress, in relation to patents, may be summed up in a few words.

Whoever discovers that a certain useful result will be produced in any art, machine, manufacture, or composition of matter, by the use of certain means, is entitled to a patent for it; provided he specifies the means he uses in a

manner so full and exact that as to which it appertains can, by u without any addition to or sub precisely the result he describes done by the means he describes if it can be done, then the patent sive right to use the means he sult or effect he describes, an makes no difference, in this res produced by chemical agency c application of discoveries or pr ophy, known or unknown bef machinery acting altogether up In either case, he must describe above mentioned, and the end i one may lawfully accomplish t fringing the patent, if he uses m from those described.

Indeed, if the eighth claim of tained, there was no necessity fo than to say that he had discovered power of electro-magnetism he c acts at any distance. We pres all hands that no patent could ha cation. Yet this claim can deri cation filed. It is outside of it beyond it; and if it stands, it 1 ground that the broad terms abo cient description, and entitled equally broad. In our judgmen not be so construed.

The patent, then, being illegal : the eighth claim, the question patent is void, unless this porti reasonable time after the patent

It has been urged, on the part there is no necessity for a disclai that it is required in those cases

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commits an error in fact in claiming something which was known before, and of which he was not the first discoverer; that in this case he was the first to discover that the motive-power of electro-magnetism might be used to write at a distance; and that his error, if any, was a mistake in law in supposing his invention, as described in his specification, authorized this broad claim of exclusive privilege; and that the claim, therefore, may be regarded as a nullity, and allowed to stand in the patent without a disclaimer, and without affecting the validity of the patent.

This distinction can hardly be maintained. The act of Congress above recited requires that the invention shall be so described that a person skilled in the science to which it appertains, or with which it is most nearly connected, shall be able to construct the improvement from the description given by the inventor.

Now, in this case, there is no description but one, of a process by which signs or letters may be printed at a distance. And yet he claims the exclusive right to any other mode and any other process, although not described by him, by which the end can be accomplished, if electro-magnetism is used as the motive-power. That is to say, he claims a patent for an effect produced by the use of electro-magnetism distinct from the process or machinery necessary to produce it. The words of the acts of Congress above quoted show that no patent can lawfully issue upon such a claim; for he claims what he has not described in the manner required by law; and a patent for such a claim is as strongly forbidden by the act of Congress as if some other person had invented it before him.

Why, therefore, should he be required and permitted to disclaim in the one case and not in the other? The evil is the same if he claims more than he has invented, although no other person has invented it before him. He prevents others from attempting to improve upon the manner and process which he has described in his specification, and may deter the public from using it, even if discovered. He can lawfully claim only what he has invented and de-

scribed ; and if he claims more judgment in this case must be he is within the act of Congress this claim.

The law which requires and not penal, but remedial. It is of the patentee as well as the patentee, to receive a construction of the claim within narrower limits than the law provides, "that when any specification, claimed to be the invention or discoverer of any material thing patented, of which he was the inventor, and shall have no part in the same," he must disclaim, in or to the claim as is legally patented.

Whether, therefore, the patentee claims more than he has shown, or than he invented, he must, in order to save the portion to which he is entitled, be allowed to do so when the error is not material.

A different construction would be given to the patentee, and de facto, the law, and produce the very result intended to guard.

It appears that no disclaimer was made at the Patent Office. But the delay in making it is not objectionable ; for the objectionable claim was made at the head of the office. It has been held by the Circuit Court, and differences of opinion have been found to exist among the judges in such circumstances, the patentee is not required to disclaim it, and not disclaim it until the claim could be carried had pronounced a decision to disclaim, therefore, does not render the claim together void ; and he is entitled to the benefit of an infringement of that part of the claim legally claimed and described.

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entered in the Patent Office before this suit was instituted, he cannot, under the act of Congress, be allowed costs against the wrong-doer, although the infringement should be proved. And we think it is proved by the testimony. But as the question of infringement embraces both of the reissued patents, it is proper, before we proceed to that part of the case, to notice the objections made to the second patent for the local circuits, which was originally obtained in 1846, and reissued in 1848.

It is certainly no objection to this patent that the improvement is embraced by the eighth claim in the former one. We have already said that this claim is void, and that the former patent covers nothing but the first seven inventions specifically mentioned.

Nor can its validity be impeached upon the ground that it is an improvement upon a former invention, for which the patentee had himself already obtained a patent. It is true, that under the act of 1836, section 13, it was in the power of Professor Morse, if he desired it, to annex this improvement to his former specification, so as to make it from that time a part of the original patent. But there is nothing in the act that forbids him to take out a new patent for the improvement, if he prefers it. Any other inventor might do so; and there can be no reason, in justice or in policy, for refusing the like privilege to the original inventor. And when there is no positive law to the contrary, he must stand on the same footing with any other inventor of an improvement upon a previous discovery. Nor is he bound in his new patent to refer specially to his former one. All that the law requires of him, is that he shall not claim as new what is covered by a former invention, whether made by himself or any other person.

It is said, however, that this alleged improvement is not new, and is embraced in his former specification; and that if some portion of it is new, it is not so described as to distinguish the new from the old.

It is difficult, perhaps impossible, to discuss this part of the case, so as to be understood by any one who has not a

model before him, or perfectly and operations of the telegraph attempt to describe minutely the operation. So far as this can be done in the opinion delivered in this case in the Circuit is useful or necessary to say, is an innovation of the patents, we think the ground is not tenable. The force is directed upon the receiving part of the machinery of the first office. But the receiver is claimed as a new invention: it is a new combination or arrangement. And this combination does not result; for by this new combination the position of the receiving magnetic circuit is opened by the electric current as it passes on the main line, with the same course; and the intelligence it conveys at the same moment at the end of the line and at the different local offices needs a model or a minute examination to be satisfied that a telegraph conveys the intelligence it conveys at different periods, as it passes along on the line. It requires a different combination from the one that prints only the letters which compose it may all have been a new invention; but it is evident that a new combination must be different to print a new patent for the local circuit is granted; and we perceive no word in the specification or claim contained in the patent of 1848.

The two reissued patents of 1848 and 1850, with the exception of the eighth claim

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maining question is whether they or either of them have been infringed by the defendants.

The same difficulty arises in this part of the case which we have already stated, in speaking of the specification and claims in the patent for the local circuits. It is difficult to convey a clear idea of the similitude or differences in the two telegraphs to any one not familiarly acquainted with the machinery of both. The court must content itself, therefore, with general terms, referring to the patents themselves for a more special description of the matters in controversy.

It is a well-settled principle of law, that the mere change in the form of the machinery, (unless a particular form is specified as the means by which the effect described is produced,) or an alteration in some of its unessential parts, or in the use of known equivalent powers, not varying essentially the machine, or its mode of operation or organization, will not make the new machine a new invention. It may be an improvement upon the former ; but that will not justify its use, without the consent of the first patentee.

The Columbian (O'Reilly's) telegraph does not profess to accomplish a new purpose, or produce a new result. Its object and effect is to communicate intelligence at a distance, at the end of the main line, and at the local circuits on its way ; and this is done by means of signs or letters impressed on paper, or other material. The object and purpose of the telegraph is the same with that of Professor Morse.

Does he use the same means ? Substantially, we think he does, both upon the main line and in the local circuits. He uses upon the main line the combination of two or more galvanic or electric circuits, with independent batteries, for the purpose of obviating the diminished force of the galvanic current, and in a manner varying very little in form from the invention of Professor Morse. And, indeed, the same may be said of the entire combination set forth in the patentee's third claim ; for O'Reilly's can hardly be said to differ substantially and essentially from it. He uses the

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combination which composes the register, with no material change in the arrangement, or in the elements of which it consists ; and with the aid of these means he conveys intelligence, by impressing marks or signs upon paper, these marks or signs being capable of being read and understood by means of an alphabet, or signs, adapted to the purpose. And as regards the second patent of Professor Morse, for the local circuits, the mutator of the defendant does not vary from it in any essential particular. All of the efficient elements of the combination are retained, or their places supplied by well-known equivalents. Its organization is essentially the same.

Neither is the substitution of marks and signs differing from those invented by Professor Morse any defence to this action. His patent is not for the invention of a new alphabet, but for a combination of powers, composed of tangible and intangible elements, described in his specification, by means of which marks or signs may be impressed upon paper, at a distance, which can there be read and understood. And if any marks, or signs, or letters are impressed in that manner by means of a process substantially the same with his invention, or with any particular part of it covered by his patent, and those marks or signs can be read, and thus communicate intelligence, it is an infringement of his patent. The variation in the character of the marks would not protect it, if the marks could be read and understood.

We deem it unnecessary to pursue further the comparison between the machinery of the patents. The invasion of the plaintiff's rights, already stated, authorized the injunction granted by the Circuit Court, and so much of its decree must be affirmed. But, for the reasons hereinbefore assigned, the complainants are not entitled to costs, and that portion of the decree must be reversed, and a decree passed by this court directing each party to pay his own costs in this and in the Circuit Court.

Mr. Justice WAYNE, Mr. Justice NELSON, and Mr. Justice

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GRIER dissent from the judgment of the court on the question of costs.

Mr. Justice GRIER.

I entirely concur with the majority of the court, that the appellee and complainant below, Samuel F. B. Morse, is the true and first inventor of the recording telegraph, and the first who has successfully applied the agent or element of nature called electro-magnetism to printing and recording intelligible characters at a distance; and that his patent of 1840, finally reissued in 1848, and his patent for his improvements as reissued in the same year, are good and valid; and that the appellants have infringed the rights secured to the patentee by both his patents. But as I do not concur in the views of the majority of the court in regard to two great points of the case, I shall proceed to express my own.

I. Does the complainant's first patent come within the proviso of the sixth section of the act of 1839? and should the term of fourteen years granted by it commence from the date of his patent here, or from the date of his French patent, in 1838?

If the complainant's patent is within the provisions of this section, I cannot see how we can escape from declaring it void. The proviso declares that "in all cases every such patent (issued under the provisions of that section) shall be limited to the term of fourteen years from the date or publication of such foreign letters patent." It is true, it does not say that the patent shall be void if not limited to such term on its face; but it gives no power to the officer to issue a patent for a greater term. If the patent does not show the true commencement of the term granted by it, the patentee has it in his power to deceive the public by claiming a term of fourteen years, while in reality it may be not more than one.

But I am of opinion that the patent in question does not come within this proviso.

The facts of the case, as connected with this point, are

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these : On the 6th of October, 1837, Morse filed, in the office of the Commissioner of Patents, a caveat, accompanied by a specification, setting forth his invention, and praying that it may be protected till he could finish some experiments necessary to perfect its details. On the 9th of April, 1838, he filed a formal application for a patent, accompanied by a specification and drawings. On the 1st of May, 1838, the Commissioner informs him that his application has been granted. Morse answers, on the 15th of May, that he is just about to sail to Europe, and asks the Commissioner to delay the issue of his patent for the present, fearing its effect upon his plans abroad.

On the 30th of October, 1838, he obtained his useless French patent. On his return to this country, in 1840, he requests his patent to be perfected and issued. In this application, filed on the 9th of April, 1838, there was an oversight in filling up the day and month. This clerical omission was wholly immaterial, but, *ex majori cautela*, a second affidavit was filed, and the patent issued on the 20th of June, 1840, for the term of fourteen years from its date.

The application of 1838 had a set of drawings annexed to the specification. The second set of drawings, required by the sixth section of the act of 1837, being for the purpose of annexation to the patent, they were entirely unnecessary till the patent issued, and are not required by law to accompany the application when first made ; and the want of them cannot affect the validity of the application.

In many instances, owing to various causes, the patent is not issued till many months, and sometimes a year or more, after the application. The Commissioner requires time to examine the specification ; he may suggest difficulties and amendments ; and disputes often arise which delay the issuing the patent. But the application does not require to be renewed, and is never considered abandoned in consequence of such delay. It still remains as of the date of its filing, for every purpose beneficial to the applicant. The law does not require that the specification and its accompaniments should be in the precise form which they after-

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ward assume in the patent. It requires only that the application be "in writing," and that the applicant should "make oath that he is the original inventor," &c. The other requirements of the act must precede the issuing of the patent, but make no part of the application, and are not conditions precedent to its validity.

In the present case, we have, therefore, a regular application in due form, accompanied by a specification and drawings, filed on the 9th of April, 1838. It has not been withdrawn, discontinued, or abandoned. There is nothing in the act of Congress which requires that the patent should be issued within any given time after the application is filed, or which forbids the postponement of it for a time, at the suggestion either of the applicant or the officer. Nor is there anything in the general policy of the Patent Laws which forbids it. On the contrary, it has always been the practice, when a foreign patent is desired, to delay the issuing of the patent here, after application filed, for fear of injuring such foreign application. It forms no part of the policy of any of our Patent Acts to prevent our citizens from obtaining patents abroad.

By the Patent Act of 1793, the applicant must swear "that his invention was not known or used before the application." The filing of the application was the time fixed for determining the applicant's right to a patent. If a patent had issued abroad, or the invention had been in use, or described in some public work, before that time, it was a good defence to it. The time of filing the application was, therefore, made by law the criterion of his right to claim as first inventor. A foreign patent subsequent to the date of his application could not be set up as a defence against the domestic patentee. The American inventor who had filed his application and specification at home, was thus enabled to obtain his patent abroad, without endangering his patent at home. This was a valuable privilege to American citizens, and one of which he has never been deprived by subsequent legislation. And thus the law stood till the act of 4th of July, 1836.

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Before this time, the right to obtain a patent was confined to American citizens, or those who had filed their intentions to become such. The policy of this act was to encourage foreign inventors to introduce their inventions to this country, but in doing so it evinces no intention of limiting our own citizens, by taking away from them rights which they had hitherto enjoyed.

Accordingly, it gave an inventor who had obtained a patent abroad, and who was generally a foreigner, a right to have one here, provided he made his application here within six months after the date of his foreign patent. Neither the letter nor the spirit of this act interferes with the right of an inventor who has filed his application here from obtaining a patent abroad, or his right to a term of fourteen years from the date of his patent.

In 1838, therefore, when complainant filed his application, he was entitled to such a patent. But in March, 1839, an act was passed, by the sixth section of which it is alleged the complainant's rights have been affected. That section is as follows :

“That no person shall be debarred from receiving a patent for any invention, &c., as provided in the act of 4th of July, 1836, to which this is additional, by reason of the same having been patented in a foreign country more than six months prior to his application ; provided, that the same shall not have been introduced into public and common use in the United States prior to the application for such patent ; and provided, also, that in all cases every such patent shall be limited to the term of fourteen years from the date of publication of such foreign letters patent.”

Now, the act of 1836, as we have shown, had given a privilege to foreign patentees to have a patent within six months after date of such foreign patent. It had not affected, in any manner, the right previously enjoyed by American citizens, to take out a foreign patent after filing their applications here. This section gives additional rights to those who had first taken out patents abroad, and holding out an additional encouragement to foreign inventors to

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introduce their inventions here, subject to certain conditions contained in the proviso. Neither the letter, spirit, nor policy of this act has any reference to, or bearing upon, the case of persons who had just made their applications here. To construe a proviso as applicable to a class of cases not within its enacting clause, would violate all settled rules of construction. The office of a proviso is either to except something from the enacting clause, or to exclude some possible ground of misinterpretation, or to state a condition to which the privilege granted by the section shall be subjected.

Here the proviso is inserted to restrain the general words of the section, and impose a condition on those who accept the privileges granted by the section. It enlarged the privileges of foreign patentees, which had been before confined to six months, on two conditions: 1st. Provided the invention patented abroad had not been introduced into public use here; and 2d. On condition that every such patent should be limited in its terms. The general words "in all cases," especially when restrained to every such patent, cannot extend the conditions of the proviso beyond such cases as are the subject-matter of legislation in the section. The policy and spirit of the act are to grant privileges to a certain class of persons which they did not enjoy before; to encourage the introduction of foreign inventions and discoveries, and not to deprive our own citizens of a right heretofore enjoyed, or to affect an entirely different class of cases, when the applications had been filed here before a patent obtained abroad.

It is supposed that certain evils might arise by allowing an applicant for a patent here to delay its issue till he can obtain a foreign patent. To which it is a sufficient answer to say, that if such evil consequences should be found to exist, it is for Congress to remedy them by legislation.

It is no part of the duty of this court, by a forced construction of existing statutes, to attempt the remedy of possible evils by anticipation.

I am, therefore, of opinion that the complainant's patent,

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as renewed, contained a valid grant of the full term of fourteen years from its original date.

II. The other point in which I cannot concur with the opinion of the majority, arises in the construction of the eighth claim of complainant's first patent, as finally amended. The first claim, as explanatory of all that follow, should be read in connection with the eighth. They are as follows :

"1st. Having thus fully described my invention, I wish it to be understood that I do not claim the use of the galvanic current, or currents of electricity, for the purpose of telegraphic communications generally ; but what I specially claim as my invention and improvement, is making use of the motive-power of magnetism, when developed by the action of such current or currents, substantially as set forth in the foregoing description of the first principal part of my invention, as means of operating or giving motion to machinery which may be used to imprint signals upon paper or other suitable material, or to produce sounds in any desired manner, for the purpose of telegraphic communication at any distances. The only ways in which the galvanic current had been proposed to be used prior to my invention and improvement, were by bubbles resulting from decomposition, and the action or exercise of electrical power upon a magnetized bar or needle ; and the bubbles and the deflections of the needles thus produced were the subjects of inspection, and had no power, or were not applied, to record the communication. I therefore characterize my invention as the first recording or printing telegraph by means of electro-magnetism.

"There are various known modes of producing motions by electro-magnetism, but none of these had been applied prior to my invention and improvement to actuate or give motion to printing or recording machinery, which is the chief point of my invention and improvement."

"8th. I do not propose to limit myself to the specific machinery, or parts of machinery, described in the foregoing specification and claims ; the essence of my invention

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being the use of the motive-power of the electric or galvanic current, which I call electro-magnetism, however developed, for marking or printing intelligible characters, signs, or letters, at any distances, being a new application of that power, of which I claim to be the first inventor or discoverer."

The objection to this claim is that it is too broad, because the inventor does not confine himself to specific machinery, or parts of machinery, as described in his patent, but claims that the essence of his invention consists in the application of electro-magnetism as a motive-power, however developed, for printing characters at a distance, this being a new application of that element or power, of which the patentee claims to be the first inventor or discoverer.

In order to test the value of this objection, as applied to the present case, and escape any confusion of ideas too often arising from the use of ill-defined terms and propositions, let us examine—

1st. What may be patented, or what forms a proper subject of protection, under the Constitution and acts of Congress relative to this subject?

2d. What is the nature of the invention now under consideration? Is it a mere machine, and subject to the rules which affect a combination of mechanical devices to effect a particular purpose?

3d. Is the claim true, in fact? And if true, how can it be too broad, in any legal sense of the term as heretofore used, either in the acts of Congress or in judicial decisions?

4th. Assuming the hypothesis that it is too broad, how should that affect the judgment for costs in this case?

1st. The Constitution of the United States declares that "Congress shall have the power to promote the progress of science and useful arts, by securing, for limited times, to authors or inventors, the exclusive right to their respective writings and discoveries."

The act of Congress of 1836 confers this exclusive right, for a limited time, on "any person who has discovered or invented any new and useful art, machine, manufacture, or

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composition of matter, or any new and useful improvements on any art, machine, manufacture, or composition of matter, not known or used by others before his or their discovery or invention thereof, and not, at the time of his application for a patent, in public use," &c.

A new and useful art, or a new and useful improvement on any known art, is as much entitled to the protection of the law as a machine or manufacture. The English Patent Acts are confined to "manufactures," in terms; but the courts have construed them to cover and protect arts as well as machines, yet without using the term art. Here we are not required to make any latitudinous construction of our statute for the sake of equity or policy; and surely we have no right, even if we had the disposition, to curtail or narrow its liberal policy by astute or fanciful construction.

It is not easy to give a precise definition of what is meant by the term "art," as used in the acts of Congress. Some, if not all the traits which distinguish an art from the other legitimate subjects of a patent are stated with clearness and accuracy by Mr. Curtis, in his Treatise on Patents. "The term art applies," says he, "to all those cases where the application of a principle is the most important part of the invention, and where the machinery, apparatus, or other means by which the principle is applied are incidental only, and not of the essence of his invention. It applies also to all those cases where the result, effect, or manufactured article is old, but the invention consists in a new process or method of producing such result, effect, or manufacture." Curtis on Patents, 80.

A machine, though it may be composed of many parts, instruments, or devices combined together, still conveys the idea of unity. It may be said to be invented, but the term "discovery" could not well be predicated of it. An art may employ many different machines, devices, processes, and manipulations to produce some useful result. In a previously-known art, a man may discover some new process, or new application of a known principle, element, or power of nature, to the advancement of the art, and will

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be entitled to a patent for the same, as "an improvement in the art"; or he may invent a machine to perform a given function, and then he will be entitled to a patent only for his machine.

That improvements in the arts which consist in the new application of some known element, power, or physical law, and not in any particular machine or combination of machinery, have been frequently the subject of patents, both in England and in this country, the cases in our books most amply demonstrate. I have not time to examine them at length; but would refer to James Watt's patent for a method of saving fuel in steam-engines, by condensing the steam in separate vessels, and applying non-conducting substances to his steam-pipes; Clegg's patent for measuring gas in water; *Juhr v. Pratt*, Webster's Patent Cases, 103; and the celebrated case of Neilson's patent for the application of hot blast, being an important improvement in the art of smelting iron.

In England, where their statute does not protect an art in direct terms, they have made no clear distinction between an art, or an improvement in an art, and a process, machine, or manufacture. They were hampered and confined by the narrowness of the phraseology of their Patent Acts. In this country, the statute is as broad as language can make it. And yet, if we look at the titles of patents as given at the Patent Office, and the language of our courts, we might suppose that our statute was confined entirely to machines, notwithstanding in *Kneass v. Schuylkill Bank*, 4 Wash. C. C. Rep. 19, Mr. Justice Washington supported a patent which consisted in nothing else but a new application of copper-plates to both sides of a bank-bill as a security against counterfeiting. The new application was held to be an art, and therefore patentable. So the patent in *McClurg v. Kingsland*, 1 Howard, 204 [4 Am. & Eng. 382], was in fact for an improvement in the art of casting chilled rollers by conveying the metal to the mould in a direction approaching to the tangent of the cylinder; yet the patentee was protected in the principle of his discovery, which

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was but the application of a known law of nature to a new purpose, against all forms of machinery embodying the same principle.

The great art of printing, which has changed the face of human society and civilization, consisted in nothing but a new application of principles known to the world for thousands of years. No one could say it consisted in the type or the press, or in any other machine or device used in performing some particular function, more than in the hands which picked the types or worked the press. Yet if the inventor of printing had, under this narrow construction of our Patent Law, claimed his art as something distinct from his machinery, the doctrine now advanced would have declared it unpatentable to its full extent as an art, and that the inventor could be protected in nothing but his first rough types and ill-contrived press.

I do not intend to review the English cases which adopt the principle for which I now contend, notwithstanding their narrow statute ; but would refer to the opinion of my brother Nelson, in 14 Howard, 177 ; and will add, that Mr. Justice McLean, in delivering the opinion of the court in that case, quotes with approbation the language of Lord Justice Clerke in the Neilson case, which is precisely applicable to the question before us. He says : " The specification does not claim anything as to form, nature, shape, materials, numbers, or mathematical character of the vessel or vessels in which the air is to be heated, or as to the mode of heating such vessels." Yet this patent was sustained as for a new application of a known element ; or, to use correct language, as an improvement in the art of smelting iron, without any regard to the machinery, or parts of machinery, used in the application. Such I believe to be the established doctrine of the English courts.

He who first discovers that an element or law of nature can be made operative for the production of some valuable result, some new art, or the improvement of some known art ; who has devised the machinery or process to make it operative, and introduced it in a practical form to the

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knowledge of mankind, is a discoverer and inventor of the highest class. The discovery of a new application of a known element or agent may require more labor, expense, persevering industry, and ingenuity than the inventor of any machine. Sometimes, it is true, it may be the result of a happy thought or conception, without the labor of an experiment, as in the case of the improvement in the art of casting chilled rollers, already alluded to. In many cases, it is the result of numerous experiments,—not the consequence of any reasoning *a priori*, but wholly empirical; as, the discovery that a certain degree of heat, when applied to the usual processes for curing India-rubber, produced a substance with new and valuable qualities.

The mere discovery of a new element, or law, or principle of nature, without any valuable application of it to the arts, is not the subject of a patent. But he who takes this new element or power, as yet useless, from the laboratory of the philosopher, and makes it the servant of man; who applies it to the perfecting of a new and useful art, or to the improvement of one already known, is the benefactor to whom the Patent Law tenders its protection. The devices and machines used in the exercise of it may or may not be used; yet, by the doctrine against which I contend, he cannot patent them, because they were known and used before; or if he can, it is only in their new application and combination in perfecting the new art. In other words, he may patent the new application of the mechanical devices, but not the new application of the operative element which is the essential agent in the invention. He may patent his combination of the machinery, but not his art.

When a new and hitherto unknown product or result, beneficial to mankind, is effected by a new application of any element of nature, and by means of machines and devices, whether new or old, it cannot be denied that such invention or discovery is entitled to the denomination of a "new and useful art." The statute gives the inventor of an art a monopoly in the exercise of it as fully as it does to the inventor of a mere machine; and any person who exer-

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cises such new art without the license of the inventor is an infringer of his patent, and of the franchise granted to him by the law as a reward for his labor and ingenuity in perfecting it. A construction of the law which protects such an inventor in nothing but the new invented machines, or parts of machinery, used in the exercise of his art, and refuses it to the exercise of the art itself, annuls the Patent Law. If the law gives a franchise or monopoly to the inventor of an art as fully as to the inventor of a machine, why shall its protection not be co-extensive with the invention in one case as well as in the other? To look at an art as nothing but a combination of machinery, and give it protection only as such, against the use of the same or similar devices or mechanical equivalents, is to refuse it protection as an art. It ignores the distinction between an art and a machine; it overlooks the clear letter and spirit of the statute; and leads to inextricable difficulties. It is viewing a statute or a monument through a microscope.

The reason given for thus confining the franchise of the inventor of an art to his machines and parts of machinery, is that it would retard the progress of improvement, if those who can devise better machines or devices, differing in mechanical principle from those of the first inventor of the art, or, in other words, who can devise an improvement in it, should not be allowed to pirate it.

To say that a patentee who claims the art of writing at a distance by means of electro-magnetism necessarily claims all future improvements in the art, is to misconstrue it, or draws a consequence from it not fairly to be inferred from its language. An improvement in a known art is as much the subject of a patent as the art itself; so, also, is an improvement on a known machine; yet if the original machine be patented, the patentee of an improvement will not have a right to use the original. This doctrine has not been found to retard the progress of invention in the case of machines; and I can see no reason why a contrary one should be applied to an art.

The claim of the patentee is, that he may be protected in

the exercise of his art as against persons who may improve or change some of the processes or machines necessary in its exercise. The court, by deciding that this claim is too broad, virtually decides that such an inventor of an improvement may pirate the art he improves, because it is contrary to public policy to restrain the progress of invention. Or, in other words, it may be said that it is the policy of the courts to refuse that protection to an art which it affords to a machine, which it is the policy of the Constitution and the laws to grant.

2d. Let us now consider what is the nature of the invention now under consideration.

It is not a composition of matter, or a manufacture, or a machine. It is the application of a known element or power of nature to a new and useful purpose, by means of various processes, instruments, and devices, and if patentable at all, it must come within the category of "a new and useful art." It is as much entitled to this denomination as the original art of printing itself. The name given to it in the patent is generally the act of the Commissioner, and in this, as in many other cases, a wrong one. The true nature of the invention must be sought in the specification.

The word telegraph is derived from the Greek, and signifies "to write afar off, or at a distance." It has heretofore been applied to various contrivances or devices, to communicate intelligence by means of signals or semaphores, which speak to the eye for a moment. But in its primary and literal signification of writing, printing, or recording at a distance, it never was invented, perfected, or put into practical operation till it was done by Morse. He preceded Steinheil, Cooke, Wheatstone, and Davy in the successful application of this mysterious power or element of electro-magnetism to this purpose; and his invention has entirely superseded their inefficient contrivances. It is not only "a new and useful art," if that term means anything, but a most wonderful and astonishing invention, requiring tenfold more ingenuity and patient experiment to perfect it

than the art of printing with t
invented.

3d. Is it not true, as set forth in the specification, that the patentee is the discoverer of the use or application of the electro-magnetic print and record intelligible characters on every ground on which the case is made out by the patent. Now, the Patent Law requires as a condition precedent to obtaining a patent, that the inventor describe in his specification the nature of his invention, particularly specify what he claims as his discovery. If he has truly stated the extent of his art or invention, and it is not too broad, and impugn the validity of his patent, what the law requires as a condition precedent, if it is only in case of a machine or process, that the inventor specify what he claims as his discovery, and to distinguish his invention from all other old, then this eighth claim is sufficient to sustain the validity of his patent, provided it is not too broad, and the machines and devices are all of his own invention. If it be too broad, "however developed" that the claim is too broad, then it follows that a person may use it for the purpose of developing the electro-magnetism than the communication described in the patent, may pirate the invention.

But if it be adjudged that the claim is too broad, then the inventor claims the application of the new art, then his patent is to be sustained for his whole invention, and nothing less. If this application be a new and useful use of his invention consists in completing the element to record letters and words in many places at the same moment, then the claim is for a principle or method, and not meant by a claim being too broad. If judicial decisions may be searched

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decision that a patent may be impugned for claiming no more than the patentee invented or discovered. It is only when he claims something before known and used, something as new which is not new, either by mistake or intentionally, that his patent is affected.

The act of Congress requires the applicant for a patent to swear that "he is the original and first inventor of the art, machine, &c." It requires the Commissioner to make an examination of the alleged invention, "and if it shall appear that the same has not been invented prior to the alleged invention, he shall grant a patent, &c. But if it shall appear that the applicant is not the original and first inventor or discoverer thereof, or that any part of that which is claimed as new had before been invented," then the applicant to have leave to withdraw his application.

The thirteenth section treats of defective specifications, and their remedy where the applicant, through mistake or inadvertency, had claimed "more than he had a right to claim as new."

The fifteenth section, in enumerating the defences which a defendant may be allowed to make to a patent, states that *inter alia* he may show "that the patentee was not the original and first inventor or discoverer of the thing patented, or of a substantial and material part thereof claimed as new." And the proviso to the same section allows the court to refuse costs, "when the plaintiff shall fail to sustain his action, on the ground that in his specification or claim is embraced more than that of which he was the first inventor."

The seventh section of the act of March 3, 1837, specially defines the meaning of the phrase "too broad" to be, "when the patent claims more than that of which the patentee was the original and first inventor." And the ninth section of the same act, again providing for cases where, by accident or mistake, the patentee claims more than he is justly entitled to, describes it to be, "where the patentee shall have in his specification claimed to be the original inventor or discoverer of any material or substan-

Order.

tial part of which he is not the first and original inventor, and shall have no legal and just right to the same."

Thus we see that it is only where, through inadvertence or mistake, the patentee has claimed something of which he was not the first inventor, that the court are directed to refuse costs.

The books of reports may be searched in vain for a case where a patent has been declared void for being too broad in any other sense.

Assuming it to be true, then, for the purpose of the argument, that the new application of the power of electro-magnetism to the art of telegraphing or printing characters at a distance is not the subject of a patent, because it is patenting a principle, yet, as it is also true that Morse was the first who made this application successfully, as set forth in this eighth claim, I am unable to comprehend how, in the words of the statute, we can adjudge "that he has failed to sustain his action, on the ground that his specification or claim embraces more than that of which he was the first inventor." It is for this alone that the statute authorizes us to refuse costs.

4th. Assuming this eighth claim to be too broad, it may well be said that the patentee has not unreasonably delayed a disclaimer, when we consider that it is not till this moment he had reason to believe it was too broad. But the bill claims, and it is sustained by proof, that the defendant has infringed the complainant's second patent for his improvement.

The court sustains the validity of this patent. Why, then, is the complainant not entitled to his costs? At law, a recovery on one good count is sufficient to entitle the plaintiff to recover costs; and I can see no particular equity which the defendants can claim, who are adjudged to have pirated two inventions at once.

I am of opinion, therefore, that the decree of the Circuit Court should be affirmed with costs.

ORDER. This cause came on to be heard on the transcript

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of the record from the Circuit Court of the United States for the District of Kentucky, and was argued by counsel ; on consideration whereof, it is now here ordered, adjudged, and decreed by this court, that the decree of the said Circuit Court in this cause be, and the same is hereby, affirmed, except so much thereof as decrees that the complainants shall recover their costs in the prosecution of this suit of and from the defendants, and that that part of the said decree giving costs to the complainants be, and the same is hereby, reversed and annulled.

And it is further ordered and decreed by this court, that the parties respectively pay their own costs in this court and in the said Circuit Court.

Notes :

1. Date of English patent, that of filing final specification.

Smith v. Goodyear D. V. Co., 93 U. S. 486.

Must antedate U. S. patent to anticipate it :

Cochrane v. Deener, 94 U. S. 780.

3. Date of invention.

Railroad Co. v. Stimpson, 14 Pet. 448 [4 Am. & Eng. 324].

Klein v. Russell, 19 Wall. 433.

Bates v. Coe, 98 U. S. 31.

Loom Co. v. Higgins, 105 U. S. 580.

Atlantic Works v. Brady, 107 U. S. 192.

5. Evidence of special matter inadmissible on failure to give notice.

Railroad Co. v. Stimpson, 14 Pet. 448 [4 Am. & Eng. 324].

Blanchard v. Putnam, 8 Wall. 420.

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Eureka Co. *v.* Bailey Co., 11 Wall. 488.

Machine Co. *v.* Keith, 101 U. S. 479.

6. Prior foreign knowledge.

Roemer *v.* Simon, 95 U. S. 214.

7. Suggestions to inventor.

Agawam Co. *v.* Jordan, 7 Wall. 583.

9. Affirmed.

Smith *v.* Ely, 15 How. 137 [6 Am. & Eng. 1].

12. Patentability of a principle.

Le Roy *v.* Tatham, 14 How. 156 [p. 313, *ante*].

Le Roy *v.* Tatham, 22 How. 132.

Burr *v.* Duryee, 1 Wall. 531.

Mitchell *v.* Tilghman, 19 Wall. 287.

Pencil Co. *v.* Howard, 20 Wall. 498.

Fuller *v.* Yentzer, 94 U. S. 288.

Tilghman *v.* Proctor, 102 U. S. 707.

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13. Specification is a part of the patent.

Hogg v. Emerson, 6 How. 437 [p. 1, *ante*].

Hogg v. Emerson, 11 How. 587 [p. 279, *ante*].

14. See Silsby v. Foote, 14 How. 218 [p. 411, *ante*, note 2].
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15. There is no unreasonable delay in disclaiming until the decision
of the highest court has been reached.

Seymour v. McCormick, 19 How. 96.

Gage v. Herring, 107 U. S. 640.

Yale Lock Co. v. Sargent, 117 U. S. 536.

And see Silsby v. Foote, 20 How. 378.

16. Costs, effect of disclaimer as to.

Silsby v. Foote, 14 How. 218 [p. 411, *ante*].

Elastic Fabrics Co. v. Smith, 100 U. S. 110.

18. Act 1832, § 3; **Act 1836, § 13**; Act 1837, §§ 5 and 8; Act
1870, § 53; R. S., § 4916.
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19. Sufficient description of improvement.

Evans v. Eaton, 7 Wheat. 356 [4 Am. & Eng. 105].

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Hogg *v.* Emerson, 6 How. 437 [p. 1, *ante*].

Corn Planter Patent, 23 Wall. 181.

Ives *v.* Hamilton, 92 U. S. 426.

Parks *v.* Booth, 102 U. S. 96.

20. Change in form not amounting to invention, what is.

Winans *v.* Denmead, 15 How. 330.

Smith *v.* Nichols, 21 Wall. 312.

Form the essence of the particular invention :

Carver *v.* Hyde, 16 Pet. 513 [4 Am. & Eng. 367].

Winans *v.* Denmead, 15 How. 330.

Keystone Bridge Co. *v.* Phoenix Iron Co., 95 U. S. 274.

Werner *v.* King, 96 U. S. 218.

Clark *v.* Beecher M'fg Co., 115 U. S. 79.

Patent in suit :

No. 1647. Morse, S. F. B. June 20, 1840. Electric Telegraph. Reissue, No. 79. January 15, 1846. Reissue, No. 117. June 13, 1848, *a*.*

No. 4453. Morse, S. F. B. April 11, 1846. Electric Telegraph (Morse Register). Reissue, No. 118. June 13, 1848, *b*.

No. 6420. Morse, S. F. B. May 1, 1849. Morse Register, *c*.

OTHER SUITS ON SAME PATENT :

Smith *v.* Selden, 1849. 1 Blatchf. 475 ; Fish. Pat. Rep. 298, *a*, *b*.

Smith *v.* Ely, 1849. 5 McL. 76 ; Fish Pat Rep. 339.

Bain *v.* Morse, 1849. 1 MacA. Pat. Cases, 90 ; 6 West. L. J. 372, *c*.

* The letter *a*, *b*, or *c* following the patent is repeated after the title of the case to indicate that the suit was on that particular patent.

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- Smith v. Clark, 1850. 3 Am. L. J. 155; 1 Brunner's Col. C. 345, *b*.
 Smith v. Downing, 1850. 1 Fish. 64, *a*, *b*.
 Morse v. Bain, 1851. 9 West L. J. 106, *a*, *b*, *c*.
 French v. Rogers, 1851. 1 Fish. 133, *a*.
 Smith v. Cummings, 1852. 1 Fish. 152, *a*.
 Smith v. Ely, 1853. 15 How. 137; 1 Whit. 838 [6 Am. & Eng. 1], *a*, *b*.
 Clum v. Brewer, 1855. 2 Curt. 506, *a*.
 Western Telg. Co. v. Magnetic Telg. Co., 1858. 21 How. 456, *a*.
 Western Telg. Co. v. Penniman, 1858. 21 How. 460, *a*.

Cited :

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- Smith v. Ely, 1853. 15 How. 137; Bk. 14, L. ed. 634 [6 Am. & Eng. 1].
 Seymour v. McCormick, 1857. 19 How. 96; Bk. 15, L. ed. 557.
 Silsby v. Foote, 1858. 20 How. 378; Bk. 15, L. ed. 953.
 Burr v. Duryee, 1864. 1 Wall. 531; Bk. 17, L. ed. 650.
 Seymour v. Osborne, 1871. 11 Wall. 516; Bk. 20, L. ed. 33.
 Mitchell v. Tilghman, 1874. 19 Wall. 287; Bk. 22, L. ed. 125.
 Dunbar v. Myers, 1876. 94 U. S. 187; Bk. 24, L. ed. 34.
 Tilghman v. Proctor, 1881. 102 U. S. 707; Bk. 26, L. ed. 279.
 Gage v. Herring, 1883. 107 U. S. 640; Bk. 27, L. ed. 601.
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IN CIRCUIT COURTS :

- Amer. Pin Co. v. Oakville Co., September, 1854. 3 Blatch. 190.
 Ransom v. Mayor of New York, December, 1856. 1 Fish. 252.
 Pitts v. Edmonds, June, 1857. 1 Biss. 168; 2 Fish. 52.
 Burr v. Cowperthwait, April, 1858. 4 Blatch. 163.
 Potter v. Holland, December, 1858. 4 Blatch. 238; 1 Fish. 382.
 Hussey v. McCormick, September, 1859. 1 Biss. 300; 1 Fish. 509.
 Singer v. Walmsley, February, 1860. 1 Fish. 558.
 Hussey v. Bradley, March, 1863. 5 Blatch. 134; 2 Fish. 362.

Notes and Citations.

- Sickles v. Evans, October, 1863. 2 Cliff. 203 ; 2 Fish. 417.
Burden v. Corning, October, 1864. 2 Fish. 477.
Goodyear v. Providence Rubber Co., November, 1864. 2 Cliff. 351 ; 2 Fish. 499.
Whitely v. Swayne, February, 1865. 4 Fish. 117.
Morris v. Royer, March, 1867. 2 Bond. 66 ; 3 Fish. 176.
Aiken v. Dolan, June, 1867. 3 Fish. 197.
In re Hawkes, July, 1867. Ms. Dc.
Hoffheins v. Brandt, July, 1867. 3 Fish. 218.
Brown v. Hall, April, 1869. 6 Blatch. 401 ; 3 Fish. 531.
Crompton v. Belknap Mills, May, 1869. 3 Fish. 536.
Shaw & Wilcox Co. v. Lovejoy, May, 1870. 7 Blatch. 232.
Piper v. Brown, May, 1870. 1 Holmes, 20 ; 4 Fish. 175.
Arkell v. Hurd Paper Bag Co., June, 1870. 7 Blatch. 475.
Chicago Fruit House Co. v. Busch, March, 1871. 2 Biss. 472 ; 4 Fish. 395.
Parham v. Am. Buttonhole, Overseaming, & Sewing Machine Co., April, 1871. 4 Fish. 468 ; 1 Leg. Gaz. Rep. 145.
Roberts v. Dickey, May, 1871. 4 Brewster, 260 ; 4 Fish. 532 ; 1 O. G. 4.
Milligan & Higgins Glue Co. v. Upton, October, 1874. 4 Cliff. 237 ; 6 O. G. 837.
Union Paper Collar Co. v. White, April, 1875. 11 Phila. Rep. 479 ; 2 Ban. & Ard. 60 ; 7 O. G. 877 ; 7 O. G. 698.
Perry v. Starrett, October, 1878. 3 Ban. & Ard. 485 ; 14 O. G. 599.
Odiorne v. Denney, May, 1878. 3 Ban. & Ard. 287 ; 13 O. G. 965.
Burdett v. Estey, November, 1878. 15 Blatch. 349 ; 4 Ban. & Ard. 7 ; 15 O. G. 877.
Goodyear Dental Vulcanite Co. v. Brightwell, May, 1879. MacA. & MacK. 74.
McMillin v. Rees, March, 1880. 5 Ban. & Ard. 269 ; 1 Fed. Rep. 722 ; 17 O. G. 1222 ; 9 Reporter, 544.
Yale Lock M'fg Co. v. Scoville M'fg Co., June, 1880. 18 Blatch. 248 ; 5 Ban. & Ard. 519 ; 3 Fed. Rep. 288.
Smith v. Merriam, January, 1881. 6 Fed. Rep. 713 ; 19 O. G. 601.
Palmer v. The Gatling Gun Co., July, 1881. 19 Blatch. 392 ; 8 Fed. Rep. 513 ; 20 O. G. 815.
New American File Co. v. Nicholson File Co., 1881. 8 Fed. Rep. 816 ; 20 O. G. 524.

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- Illingworth v. Spaulding, December, 1881. 9 Fed. Rep. 611.
Tyler v. Galloway, April, 1882. 20 Blatch. 445 ; 12 Fed. Rep. 567 ; 22 O. G. 2072.
Mackay v. Jackman, April, 1882. 20 Blatch. 466 ; 12 Fed. Rep. 615 ; 22 O. G. 85.
Amer. Bell Tel. Co. v. Dolbear, January, 1883. 15 Fed. Rep. 448 ; 23 O. G. 535.
United Nickel Co. v. Pendleton, February, 1883. 21 Blatch. 226 ; 15 Fed. Rep. 739 ; 24 O. G. 704.
United Nickel Co. v. Melchior, July, 1883. 17 Fed. Rep. 340.
Giant Powder Co. v. Safety Nitro Powder Co., February, 1884. 10 Saw. 23 ; 19 Fed. Rep. 509 ; 27 O. G. 99.
New Process Fermentation Co. v. Maus, June, 1884. 20 Fed. Rep. 725.
Stutz v. Armstrong, July, 1884. 20 Fed. Rep. 843 ; 28 O. G. 367.
American Bell Telephone Co. v. People's Telephone Co., 1884. 22 Blatch. 531 ; 22 Fed. Rep. 309 ; 29 O. G. 1029.
Canan v. Pound M'fg Co., March, 1885. 23 Fed. Rep. 185 ; 31 O. G. 119.
Gold & Stock Tel. Co. v. Commercial Telegram Co., April, 1885. 23 Fed. Rep. 340 ; 31 O. G. 1559.
Mathews v. Flower, October, 1885. 25 Fed. Rep. 830 ; 33 O. G. 887.
Railway Register M'fg Co. v. Broadway & 7th Ave. R. Co., February, 1886. 26 Fed. Rep. 522.
Johnston Ruffler Co. v. Avery Machine Co., July, 1886. 28 Fed. Rep. 193.
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- Morton's Anæsthesia, December 24, 1856. 8 Opinions of A. G. of U. S., p. 269 (Cushing).
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Ex parte B. J. Hobson, February, 1872. 1 O. G. 141.
Carroll v. Morse, February, 1876. 9 O. G. 453.
C. W. Siemens, March, 1877. 11 O. G. 1107.
Scott v. Ford, September, 1878. 14 O. G. 413.
Bell v. Gray, March, 1879. 15 O. G. 776.
Anders v. Gilliland, November, 1880. 19 O. G. 177.
Ex parte Matthews & Race, January, 1884. 26 O. G. 823.
Ex parte Demming, March, 1884. 26 O. G. 1207.
Ex parte Derby, March, 1884. 26 O. G. 1208.
Ex parte Holt, April, 1884. 29 O. G. 171.
Ex parte Blythe, July, 1884. 30 O. G. 1321.

IN STATE COURTS :

Fraser v. Gates, March 30, 1885. 1 N. East R. 817.

IN TEXT-BOOKS :

2 Abb. Pat. Law, 1886, pp. 37, 40, 46, 60, 63, 64, 69, 87, 200, 208, 212, 250.
Merwin on Pat. Inv., 1883, pp. 330, 543, 549, 555, 571, 583, 599, 685.
Walker on Pats., 1883, pp. 3, 8, 34, 38, 42, 75, 114, 115, 125, 127, 137, 140, 141, 142, 145, 174, 175, 246, 253, 256, 265, 327, 330, 363, 448.
Curtis on Pats., 4th ed., §§ 91, 117, 121, 126, 154, 156, 163, 242. Note, 244, 281, 379, note.

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1. An exclusive territorial assignee under Act 1836, § 14, may bring suit for infringement in his own name. Anything short of this is a license upon which patentee alone can maintain an action. *Gayler v. Wilder*..... 188

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1. When a party has acquired an inchoate right to a patent, and the power to make that right perfect and absolute at his pleasure, the assignment of his whole interest, executed before the patent issued, was held to inure to the benefit of his assignees within the provisions of Act 1836, § 11, as if executed after its issue. *Gayler v. Wilder*..... 188
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1. Change in form which does not constitute invention.
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1. In view of Act 1793, § 3, the specification being required to be prepared and filed before the patent issues, it can be referred to in *extenso* for the subject-matter of the claim or petition for patent. Hogg v. Emerson..... 1
 2. Where a claim did not point out nor designate the particular elements which composed the combination, but declared that the combination was made up of so much of the described machinery as effected a particular result, *held* that the claim was a proper one, and that it was a question of fact to be left to the jury which of the described parts were essential to produce the result.
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 2. The patent is to be tested by the law in force at the time of its grant. Hogg v. Emerson..... 1
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- " " § 15. See Notice, 1.
- " " § 17. See Jurisdiction, 3; Writ of Error, 1, 2.
- Act 1837, § 7. See Disclaimer, 1, 2.

Contract.

1. Where a declaration in assumpsit set out two counts, the first on a parol contract that plaintiffs were entitled to certain savings resulting from the use of their patented machine, and especially set forth the mode of ascertaining the amount, and the second upon a *quantum meruit*, *held*, that evidence of another mode than that set forth of ascertaining the amount was admissible. *Steam Packet Co. v. Sickles*..... 158
 2. The defendants having offered the evidence of the late president of the company, who denied that he made the special contract alleged, and stated that he made a different one, the jury should have been instructed to find for the defendants, if they believed this evidence. *Steam Packet Co. v. Sickles*..... 158
 3. The contract held to be an entire contract, and not divisible, under the term of which no right of action for any portion of the sum could be supported until the patent expired. A charge that it could be supported held erroneous. *Steam Packet Co. v. Sickles* 158
- See Agent, 1; Jurisdiction, 3.

Copies of Patents.

1. Where a demand for copies of certain patents was made on the Commissioner of Patents, accompanied with rudeness and insults, *held* on action for damages brought for Commissioner's refusal, that it was not a legal demand; but a subsequent demand having been made in a proper manner, that defendant was not justified in his refusal in default of an apology, and as plaintiff had shown a demand of the copies, with tender of fee and refusal of defendant, he had made out his case as laid in this declaration, and was entitled to a verdict with nominal damages. *Boyden v. Burke*..... 470
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1. A fair ground exists for the mitigation of damages, if the maker of the infringing machine appeared in truth to be ignorant of the patent right, and did not intend any infringement. *Hogg v. Emerson*..... 279
 2. It is the making and selling to be used, and not the selling, or buying, or making alone, for which full damages are usually given, and the license fee may be a proper guide to determine the same. *Hogg v. Emerson*..... 279
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Date of Invention.

1. Where it was established by the testimony of witness and others that the inventor had invented his plan at a certain date, although not disclosed to the witness until afterward ; and there was reasonable ground for believing it so far completed in his mind, that the delay in bringing it out arose from want of means, *held* that the invention was entitled to take date from such time, and was not anticipated by publications subsequent thereto. *O'Reilly v. Morse*..... 488

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1. Where the injunction prayed for in the court below was made perpetual, but there was a reference to a master to ascertain the damages by reason of the infringement, and the bill was not dismissed nor was there a decree for cost, *held* that the decree was not final, and the appeal was dismissed. *Barnard v. Gibson*..... 74
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1. A disclaimer by patentee, stating that the plaintiff himself is the patentee, is a sufficient statement of the extent of his interest, and is admissible as a disclaimer under Act 1837, § 7. *Silsby v. Foote*..... 411
2. The law which requires and permits patentee to disclaim, is not penal but remedial (Act 1837, § 7). *O'Reilly v. Morse*..... 488
3. Where a claim has been allowed and held valid by a circuit court, there is no unreasonable delay in filing a

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1. Where certain English patents were introduced to establish priority of invention over a domestic patent, *held* that they must take date from the time of filing their specifications, and not of sealing. *O'Reilly v. Morse*..... 468

Errors.

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Estoppel.

1. Where patentees have founded their claim on the specification, they can neither modify nor abandon it in whole or in part. *LeRoy v. Tatham*..... 818
2. Declarations of a patentee that he had never perfected his invention cannot be heard to disparage the title of his assignees without notice of the fraud. *Wilson v. Simpson*..... 97

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1. Inadmissible hearsay evidence. *Wilson v. Simpson*..... 97
2. Where on suit brought against the Commissioner of Patents for refusal to furnish certain copies of office records, but no special damages were alleged in the declaration, the reception of evidence tending to prove such damages was properly refused. *Boyden v. Burke*..... 470
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4. The Appellate Court cannot go outside of the record for evidence. *O'Reilly v. Morse*..... 488
 5. Where the court below properly rejected certain evidence, *held* that it was no cause for reversing the judgment that an erroneous reason was given for rejecting it. *Silshy v. Foote*..... 411
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1. Under the general law in force (Act 1836) when this special act (Woodworth extension, 1845) was passed, a party who had purchased the right to use a planing machine during the period to which the patent was first limited was entitled to continue to use it during the extension authorized by that law, nothing to the contrary appearing in the special act. *Bloomer v. McQuewan*..... 494
2. To determine the right to use a patented article during a second extension granted by special act, the act must be construed in view of the general patent law, and the special acts passed from time to time in favor of particular patentees. They are statutes *in pari materia*, and must be construed together. *Bloomer v. McQuewan*.. 494

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1. The patentee of an improvement on an older patented invention is not bound in his new patent to refer specifically to his former one. *O'Reilly v. Morse*..... 488
- See Particular Patents, 14.

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1. The inventor of a new and useful improvement has no exclusive right to it until he obtains a patent, but is vested by law with an inchoate right thereto, which he may perfect and make absolute by proceeding according to law. *Gayler v. Wilder*..... 188
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1. Patents should include but one subject ; but they may be united, if two or more, included in one set of letters patent, relate to a like subject, or are in their nature and operation connected together. *Hogg v. Emerson.* 1
 2. A joinder in one patent of a combination and two or three portions of that combination is proper. *Hogg v. Emerson* 279.
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Jurisdiction.

1. The jurisdiction of the court under Act 1802, ch. 31, § 6, extends only to points of law. *Wilson v. Barnum.*... 89
 2. Where on a certificate of division the question was whether or not the patent was infringed by defendant's machine, *held* that it was a question to the substantial identity of two machines, and was a question of fact over which, in view of Act 1802, ch. 31, § 6, this court has no jurisdiction. *Wilson v. Barnum.*..... 89
 3. Where a bill in equity was brought to set aside an assignment of a patent on the ground of assignees' refusal to comply with the conditions of the contract, *held* that it was not a case arising under the patent law of the United States, and therefore, the matter in dispute being less than \$2000, was not subject to appeal under Act 1836, § 17. *Wilson v. Sandford.*..... 123
 4. The Supreme Court has jurisdiction to re-examine the judgment of a Circuit Court rendered upon an agreed statement of fact. The practice of appeal upon such agreed statement approved. *Stimpson v. B. & S. R. R. Co.*..... 129
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1. An agreement granting an exclusive right to make and vend a safe within a limited territory, grantee to pay

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- monthly for weight sold, but grantor reserving right to manufacture and sell within the territory specified, and to pay grantee for weight sold, construed to be a license and not an assignment of an undivided interest in the whole patent, and licensee cannot sue. *Gayler v. Wilder*..... 188
2. A particular agreement between a patentee and his infringer, compromising their suit and settling "their conflicting claims to this time" construed not to be a license to continue the use of the invention. *Troy Iron and Nail Factory v. Corning*. 375
3. A mere license to a party, without having his assigns or equivalent words to them, showing that it was meant to be assignable, is only the grant of a personal power to the licensee, and is not transferable by him to another. *Troy Iron and Nail Factory v. Corning*..... 375
- See Assignee, 1.

Licensee.

See License, 1.

License-Fee.

See Damages, 2.

Lost Arts.

See Prior Knowledge and Use, 2.

Mitigation of Damages.

See Damages, 1.

Model.

1. Models and drawings in the case may be resorted to for clearer information. *Hogg v. Emerson*..... 1

Nonsuit.

1. Courts of the United States have no power to order a peremptory nonsuit against the will of the plaintiff. *Silsby v. Foote*..... 411

Notice.

1. Where notice of special matter under the general issue Act 1886, § 15, was given, of matter described in a publication of upwards of 1300 pages, it was held insufficient for failure to specify the page or title where found. *Silsby v. Foote*..... 411
2. The notice having failed to allege where the same was used, notice of the publication to prove publisher's prior knowledge is not sufficient under the statute. *Silsby v. Foote*..... 411
3. Appellants cannot be allowed to surprise patentee by evidence of a prior invention of which they gave him no notice. *O'Reilly v. Morse*..... 483

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Novelty.

1. The novelty of this c
of which it is con
material fact for
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Particular Patents.

1. J. B. Emerson's pater
1834, *held* broad
annexed, to embr
Hogg v. Emerson.
2. The several invention
patent, and the s
specification sustai
3. The specifications of
March 8, 1834, fo
the letters patent,
described therein.
4. The inventions in Em
design and operatio
Hogg v. Emerson.
5. H. Burden *held* the ir
1757, granted him
Machine, in view o
Troy Iron and Nai
6. Patent No. 2197, J. G
for Doors, construe
for that out of whic
ment was made, th
make such element
ference was formal
kiss v. Greenwood.
7. Reissue granted J. Stin
August 23, 1831), C
a claim for a combi
infringed by a comb
another element sub
son v. B. & S. R. R.
8. The claim in Reissue
J. & H. Hanson (or
1841), Lead Pipe M
bination of machine
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9. Morse held the first and
in No. 1647, June 2
15, 1846, and No. 1
graph, and was not
inventions relied on.
10. Patent No. 1647, reissu

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bear the same date with the prior French patent. O'Reilly v. Morse.....	483
11. The identity of the original patent, No. 1647, and its reissue, No. 117, sustained in view of the presumption in favor of the same raised by its reissue by the proper lawful authority, nothing appearing to the contrary, and because the variation in the reissue description from that in the former specification does not necessarily imply that it is for a different discovery. O'Reilly v. Morse.....	483
12. Reissue 117, June 18, 1848, to S. F. B. Morse, claim 8, construed to be for the exclusive right to use a manner and process which he had neither invented nor described; it is for a principle, and <i>held</i> too broad and void. O'Reilly v. Morse.....	483
13. Patent No. 4453, April 11, 1846, reissue 118, June 13, 1848, to Morse for Electric Telegraph (Morse Register), <i>held</i> not invalidated because embraced in void claim 8 of reissue 117. O'Reilly v. Morse.....	483
14. It is also patentable as an improvement in a new patent, in place of being annexed to his former specification, under Act 1838, § 13. O'Reilly v. Morse.....	483
15. The two Morse reissues, Nos. 117 and 118, sustained and <i>held</i> infringing. O'Reilly v. Morse.....	483

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1. Patents are public records; and it is the duty of the Commissioner to give authenticated copies to any person who shall demand the same, as soon as he conveniently can, on payment of the legal fees. Boyden v. Burke.. 470

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1. A "principle" in the abstract is a fundamental truth; an original cause; a motive. It is not patentable. Le Roy v. Tatham.... 313

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2. Patenting a principle.
viewed. *O'Reilly v.*
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Prior Invention.

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Prior Knowledge—Foreign.

1. When the patentee belie
a previous discovery
his patent void, un
stantial part of it, ha
in a printed publicat

Prior Knowledge and Use.

1. The prior knowledge an
defeat a subsequent
Act 1836, § 6, is a
manner accessible to
2. Lost arts fall within the
3. If the inventor of a prio
covery public, but
private purpose, and
abandoned, it is not
invention or discover
will defeat a patent f
inventor. *Gayler v.*
See Notice, 2, 3; Prior Kno

Prior Publication.

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Process.

1. Where a power of natu
the invention consists
modify, and concentr
not in discovering th
ful objects. *Le Roy*
2. The test of infringement
have used substantial
same result. *Le Roy*
See Particular Patents, 8.

Purchaser of Patented Article.

1. The purchaser of the pat
no right from the a
private property, pr
United States, but by
is situated, and subje
McQuewan.....

- | | PAGE |
|--|------|
| 2. Neither does it depend upon the term granted patentee.
Bloomer v. McQuewan..... | 434 |
| 3. Where purchaser's right to construct and use the patented device is purchased and paid for without limitation of time, it becomes a property right, protected by the 5th Amendment to the Constitution. A special act depriving them of the right to such use could not be regarded as due process of law. Bloomer v. McQuewan..... | 434 |

Purchaser of Right to Make or Sell for Use.

1. The interest of a purchaser of the exclusive privilege of making or vending for use the patented article, is a share in the monopoly, and terminates at the time limited for its continuance by the law which created it.
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See Claim, 2 ; Jurisdiction, 2.

Record.

1. Where patentee had previously perfected his right, the destruction of the record, through no fault of his, cannot injure him. Hogg v. Emerson..... 1
- See Evidence, 4 ; Patent, 1.

Rehearing.

1. After judgment pronounced, a motion to open the judgment for the purpose of amending the bill of exceptions and rehearing the case upon the ground of the omission of material evidence refused. Gayler v. Wilder..... 236

Reissues.

See Particular Patents, 7-15.

Repairs.

1. The elements of a combination may be repaired without reconstruction. Wilson v. Simpson..... 97
2. Where defendants' assignees replaced worn-out cutter knives in a patented planing machine, which they were using, as they had a right to, during its extension, it was held a repair they were entitled to make. Wilson v. Simpson..... 97

Result.

1. A patent is not good for an effect, or the result of a certain process. Le Roy v. Tatham..... 313

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Article, 3.

Sale of Patented Article.

See Purchaser of Patented

Secret Invention.

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Specification.

1. It is the specification which merely illustrate. H
 2. The schedule or specification patent in view of the under Act 1793, § 3.
 3. The specification is a Morse.....
 4. In his specification patent and disclaim all the Emerson.....
- See Claim, 1; Improvement

Sub-combination.

See Joinder of Invention, 2.

Substitution.

See Change of Material, 1.

Suggestions.

1. The fact that the inventor has necessary information and acted upon it, neither inventor nor detracts from

Surprise.

See Notice, 3.

State Law.

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Term of Patent.

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1. The question whether the filing of the United States application prior to the grant of the French patent for the same invention exempted the subsequently granted domestic patent from limitation to the term of the prior foreign patent, raised but not decided. *O'Reilly v. Morse*..... 483
- See Purchaser of Patented Article, 2; Particular Patents, 10.

Territorial Assignee.

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Title.

See Estoppel, 2.

Void Claims.

See Particular Patents, 12, 13.

Void Patent.

See Disclaimer, 4; Prior Knowledge, Foreign, 1; Particular Patents, 10.

Withdrawal of Juror.

1. Where, after counsel's opening address was begun, a juror was discharged on account of physical disability, held that it rested in the discretion of the court whether the withdrawal of the juror should be treated as occasioning a vacancy on a still existing panel, or as breaking up the panel altogether. *Silaby v. Foote* 411

Writ of Error.

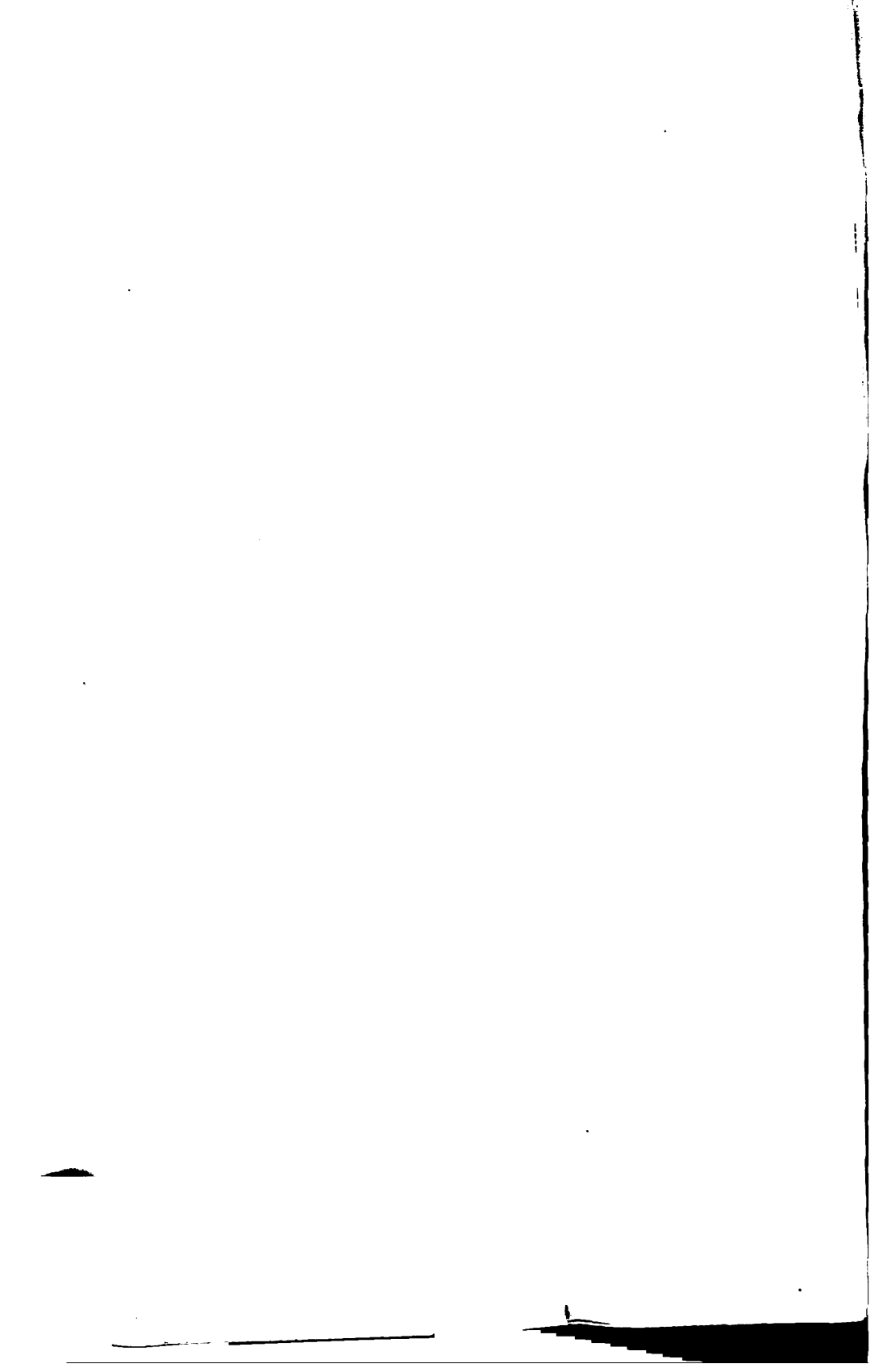
1. Act 1836, § 17, construed to vest the Circuit Court with discretion to allow or disallow writs of error in patent cases involving less than \$2000. *Hogg v. Emerson*.... 1
2. When a court below deem it "reasonable" to allow a writ of error at all under the discretion vested in them by Act 1836, § 17, it must be on the whole case. *Hogg v. Emerson*..... 1

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